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the forces we lift
our hearts, hats
and voices; yes, and
our glasses, though
they cannot yet be
charged with

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Volume CLXXXII No. 2379 The SPHERE, London, August 25, 1945

THE SPHERE
With which is incorporated "THE GRAPHIC"
The Empire's Illustrated Weekly

AFTER THE CELEBRATION OF VICTORY ON SUNDAY LAST AT ST. PAUL'S : THE KING AND QUEEN AND THE TWO PRINCESSES LEAVE THE CATHEDRAL AT THE END OF THE SERVICE. They are preceded by the Lord Mayor, Sir Frank Alexander, bearing the City Sword

Following on the two days of world-wide rejoicing at the ending of six years of war, on Sunday last the King and Queen led the nation in Thanksgiving for our great victories. They drove in state from Buckingham Palace along the now-traditional triumphal way—along the Mall, the Strand, Temple Bar and Fleet Street ; with them in the open carriage sat the two Princesses. In the Cathedral itself, filled to overflowing, sat the Prime Minister and his Cabinet colleagues, Mr. Winston Churchill, and the heads of the Allied States and of the Allied Services. The sermon was preached by Dr. Fisher, Archbishop of Canterbury. At the conclusion of the service, led by the Lord Mayor bearing the great City Sword, the Royal Family drove back to the Palace—again through streets packed with loyal citizens who had come out in their tens of thousands to celebrate the historic occasion

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VICTORY DAY AT THE PALACE : The King and Queen and the Princesses Elizabeth and Margaret Rose acknowledging the cheers of the huge crowd which had gathered to greet them after their return from the State opening of Parliament. Throughout the day and for hours during the night the thousands of cheering people remained outside Buckingham Palace. In response to the acclamation of the crowd, their Majesties made six appearances on the Palace Balcony

A LONDON NEWSLETTER

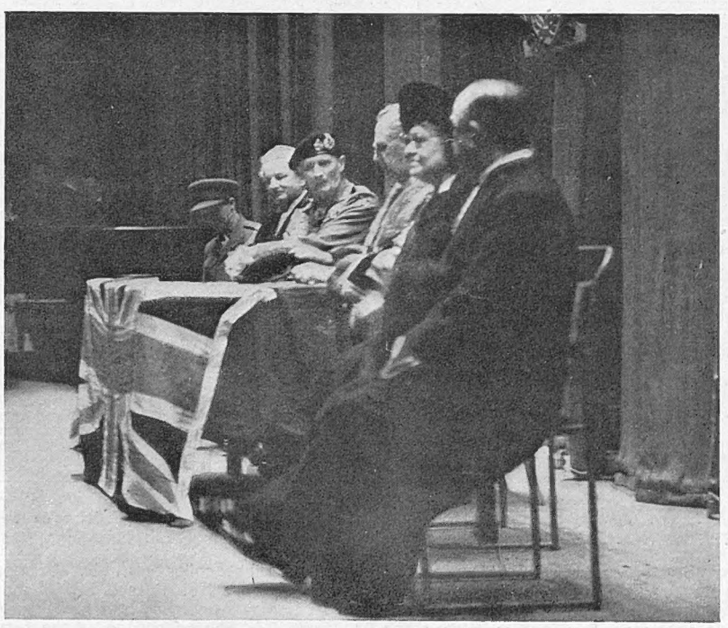
NOTE : *With the issue of* THE SPHERE *for September 9, 1939, the style of this page was changed from "A London Newsletter" to "A War Newsletter." Since that date there have been 311 weekly issues, extending over nearly six years of war. With the cessation of hostilities in every theatre, to-day we revert to our former style of title.*— EDITOR.

1, NEW OXFORD STREET, W.C.1.

VJ, VF, VE.—Victory day, final and complete, came, after many false starts, like a thief in the night of August 14. Most of us learned that we were on holiday at breakfast-time on August 15, in a plumper of rain. What does one do with sudden holidays, which are "bonus-ed" on us just after we have returned from our holidays, or, at any rate, without notice? If you are a King, you go on with your work and open a Parliament, or what not. If you are a magistrate—a very humble official—you obey "Home Office instructions" and carry on with your job of giving maintenance allowance to bastards and fining lampless night-riders. The postman and the Press-man carry on, so does the butcher and the baker. And the "non-essential" workers (such as Civil Servants, factory workers, miners, dockers, and so forth) have a late breakfast in bed and whistle for a distraction in the streets. There were plenty in London of a pretty amiable peaceable kind. No need to overturn trams, break windows or waste paper. And, indeed, why should any person, howsoever light-headed, choose VF Day for rioting and destruction? For now at last we have come to the end of wars fought with tanks and bombs made of high explosives. Our future is much more clear and simple and satisfactory than ever it has been for centuries; indeed, since day first dawned on our tragi-comedy. For either we have before us Eternal Peace or, by favour of the split atom, a swift, painless and happy issue out of all our afflictions within an hour or so of the declaration of war. At the worst of it, we have outlawed *four-year wars*, and if that be not a step forward, I know not what is Progress. I found the best of reasons for attending our village church, singing a *te-deum* with heartfelt thankfulness and listening to Micah IV, verses 1-5. We have listened before now to Micah, with what faith and hope we could compass Now at last we can listen without tongue in cheek. I shall never write again 311 continuous weekly War-Newsletters. I might conceivably write one. . . . But that would be Alpha and Omega, the first and the last. The occasion deserves two days holidaying—even of the busman's variety. *La comedia e finita.*

At the Palace Gates.—The scenes enacted outside Buckingham Palace on November 11, 1918, were repeated on August 15, 1945. There were no geraniums to trample down in 1918. Otherwise, "changey for changey," it was a repetition of a "unique event," the spontaneous expression of loyalty, gratitude and thanksgiving for dangers past and assured peace to come, by a London multitude to their Sovereign. It was another King and Queen in the succession of the Georges, another tribute to a King and Queen who had spent themselves in devoted and continuous service through the long and dark and dreadful years. Queen Mary, across the wall of Marlborough House garden, must have looked out on the scene and poignantly recalled the Armistice night of 1918, and the high hopes those scenes expressed. The hopes perished; the noble inspiration vanished; the vows of amendment were all broken—hope, inspiration, vows were gathered up from the gutters with the litter left by the revellers. The world-war period was resumed at once, with an uneasy armistice of selfish, blind, go-as-you-please indulgence, which led on directly to the war of 1939-45. And here we are again. But this time, "this term [as poor Mr. Perrin promised himself], it is going to be all right." Well, perhaps it is so. We have had some pretty sharp lessons. But the mood of thanksgiving never lasts long. To-morrow there will be sharp exchanges again in Parliament and the Press; there will be grouses about tardy demobilisation, class favouritism, queues, faulty food distribution, delays in erecting the New Jerusalem. I have lived sixty years, and in that span I have seen several nations in the exalted mood of gratitude to God and promise of true repentance; and I have seen those nations on the "morning after." True repentance and short memory are ill bedfellows. It will be well if we remember Armistice Night 1918 even more vividly than VJ Day 1, 1945. Let us rejoice, but let us be mindful.

Major Criminals.—If ever "Time is on the side" of the enemies of peace, it is on the side of those major Nazi criminals who still await (and now with tongue in cheek) the painfully slow processes of reaching agreement on Procedure. Learned international lawyers of Allied Governments sit round a table and explore the avenues, while the "premature" trials of Pétain, and so forth, drag out and bore or disgust the watching world, and while our own bag of master-criminals take heart at our delays and hesitations, throw off their cringing subservience and terrors and begin to talk and justify their actions with increasing confidence and even truculence. It is as I ventured to predict years ago. You must execute your murderer red-handed or he will escape the rope. The longer we look at it, the less we shall like it. Memory is fatally short. Hess is long since a mascot. Ribbentrop is almost a "good chap" again. And the Reichsmarshal is a jolly old buffer. Who so beastly cold-blooded to-day as to put a rope round his outsize neck? Who so primitive as to endure the boredom of a long-drawn-out trial of these former enemies, now boon companions of their gaolers and of the Press-men? We might have hung the Kaiser—in November 1918. We had missed the bus by December 1918. And we look like missing the bus again.

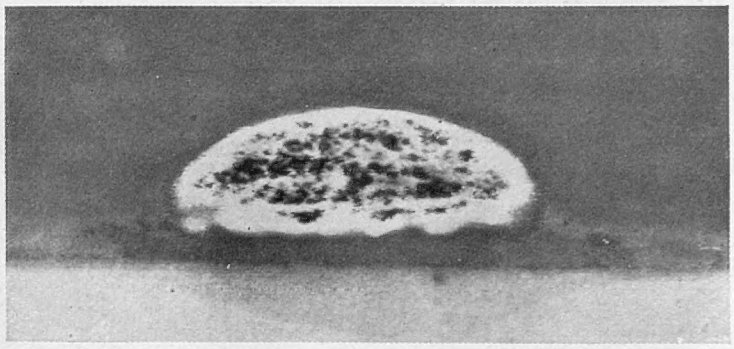


FIELD-MARSHAL MONTGOMERY IS MADE A FREEMAN OF HIS NATIVE BOROUGH after flying specially from Berlin to Lambeth : VJ Day will be all the more remembered by the people of Lambeth as the day when Field-Marshal Montgomery received the Freedom of the borough where he was born. A huge crowd gathered to welcome him as he drove, with the Mayor of Lambeth, Alderman W. Lockyer, in an open landau to the Town Hall for the ceremony. He afterwards spoke from the stage of the crowded Empress Theatre, Brixton, where this picture was taken The Field-Marshal is seen with the Mayor and Mayoress of Lambeth

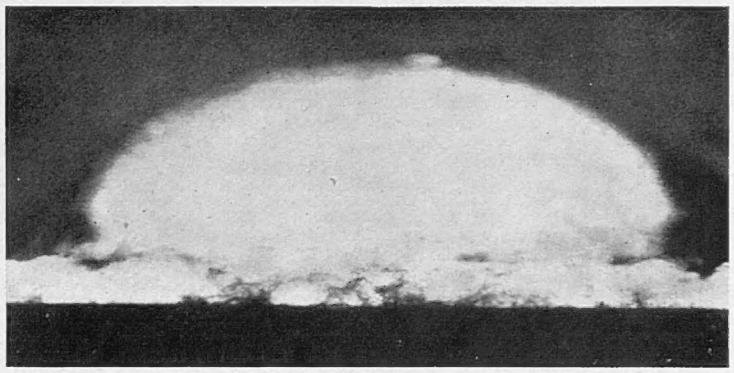
The Scientists Explain.—Sir Charles Darwin I should number among the most human and approachable of scientists—it is a family trait. So I sat down to listen and drink in his simple explanation of the making of the atomic bomb. It was my obvious and bare duty. After all, his fraternity has done more than split the atom; they have pulled our world—such as it was—about our ears. His preface was most encouraging. He would cut out a hundred lesser lights and concentrate on three high-lights, and just explain in childish language what the atom is composed of and how it came to be split and harnessed. It seems that a little bit of metal as large as a pebble is composed of many atoms, roughly a million million million million. As far as I could make out, each of these (or is it some of them?) is composed of a nucleus and a neutron and something else of which the name escapes me. Some of these nuclei or neutrons are numbered (or else weigh) 296 or 275 (or what not). All you have to do is to select, out of many, a suitable nucleus or neutron (or what not) and shoot it at another of the same weight or number. If you are lucky enough to hit, the missile (or the target) explodes and a little bit of one or other breaks off and you collect it and put it in a bomb-case and drop it on Tokyo or London or what not, and Tokyo or London vaporises and vanishes without trace, and all living things in it. Or, if you take a little more trouble, you can put the nucleus of the chipped neutron into a Hoover for the *good* of mankind and give your housemaid (if you have one) a prolonged holiday-with-pay. And now you know as much as I do about the mighty atom and how it was split, It's really quite simple if you give your mind to it.

THE OLD STAGER

HIROSHIMA, MONDAY, AUGUST 6 : ON THIS DAY THE FIRST ATOMIC BOMB WAS DROPPED ON JAPAN. The above picture was taken twenty-four hours later, after the vast smoke-pall had cleared. Only a few scattered buildings remain standing in the heart of the city : it is estimated that two-thirds of the city was devastated. (*This new picture has just arrived in London via New York.*) The dark area in this view shows part of the almost total obliteration of Hiroshima. Just one single bomb, one-tenth the size of an R.A.F. "blockbuster," was dropped—yet it had over 2,000 times the blast power of the largest "Grand Slam" and more power than 20,000 tons of T.N.T. Hiroshima was a town of 12 square miles : large parts of it now no longer exist. As soon as the first bomb had been dropped, the Japs began to sue for peace. Another bomb—on Nagasaki—accelerated their decision to quit the war and surrender to the Allies



THE FIRST ATOMIC BOMB IN HISTORY—THE TEST EXPLOSION IN NEW MEXICO. 1—The atoms have just split, and the ring of white-hot air is spreading outwards. The explosion in this first stage measured a quarter of a mile in width : its blast was felt nearly 300 miles away—July 16, 5.30 a.m.



THE TEST EXPLOSION—2 : The huge mushroom had expanded to half a mile in width and 300 yards high. With the great blast came a tremendous roar and a pressure-wave that could be felt violently six miles away

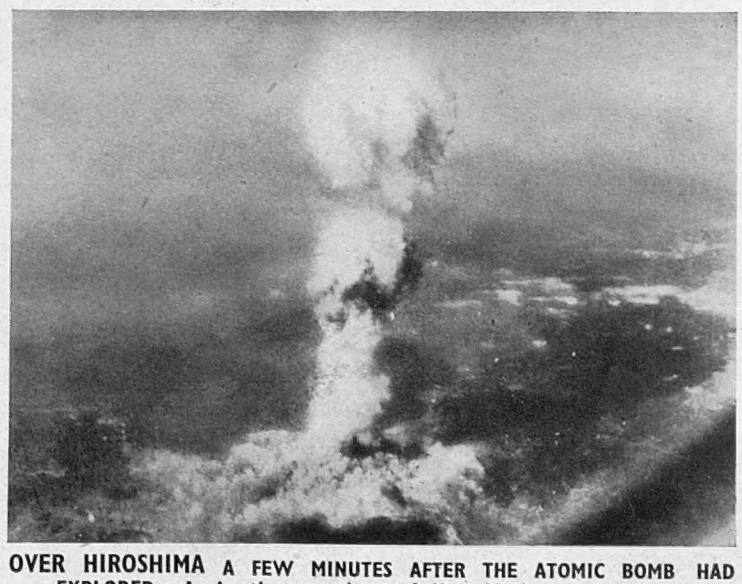
THE TEST EXPLOSION—3 : The great cloud of hot air rising violently above the explosion. It went up to more than 40,000 ft.—a seething mass of smoke and flame which blotted out the light of day

On page 238 of this issue we present an artist's impression of the terrific explosion of the first experimental atomic bomb in New Mexico on July 16. We are now able to supplement this drawing by the three actual photographs reproduced above. They are the first to be received in this country showing what happened in the desert as the atom was split in the biggest man-made explosion in history

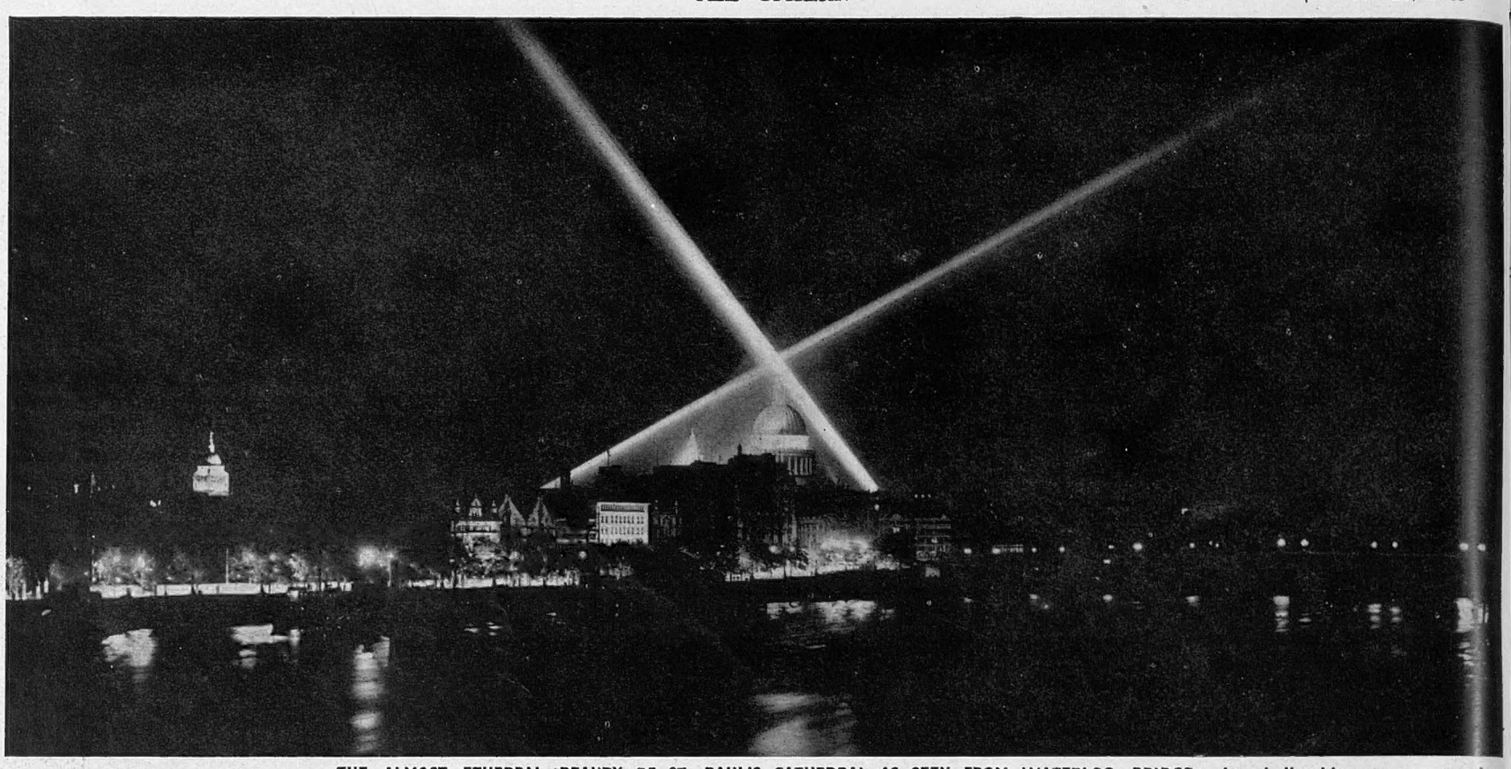
The SPLITTING of the ATOM

First Radio Pictures from America : and Two New Views from Hiroshima

NEW YORK BEGINS TO CELEBRATE THE VICTORY OVER JAPAN AND THE END OF WAR THROUGHOUT THE WORLD : The scene in Times Square, packed solid with 100,000 people. Throughout America the excitement was intense, the peace celebrations lasting for several days (*Picture by radio*)



OVER HIROSHIMA A FEW MINUTES AFTER THE ATOMIC BOMB HAD EXPLODED : As in the experimental New Mexico explosion, a vast cloud of smoke and flame covers the city on which the bomb had exploded. For many hours afterwards the pall was so dense that photography was no longer possible by the reconnaissance planes



THE ALMOST ETHEREAL BEAUTY OF ST. PAUL'S CATHEDRAL AS SEEN FROM WATERLOO BRIDGE: Its chalk-white stone was aglow with light from below, while above the dazzling cross two steel-blue searchlight beams played in the dark sky. Thousands of people witnessed the wonderful display from the bridge

A FLOODLIT LONDON

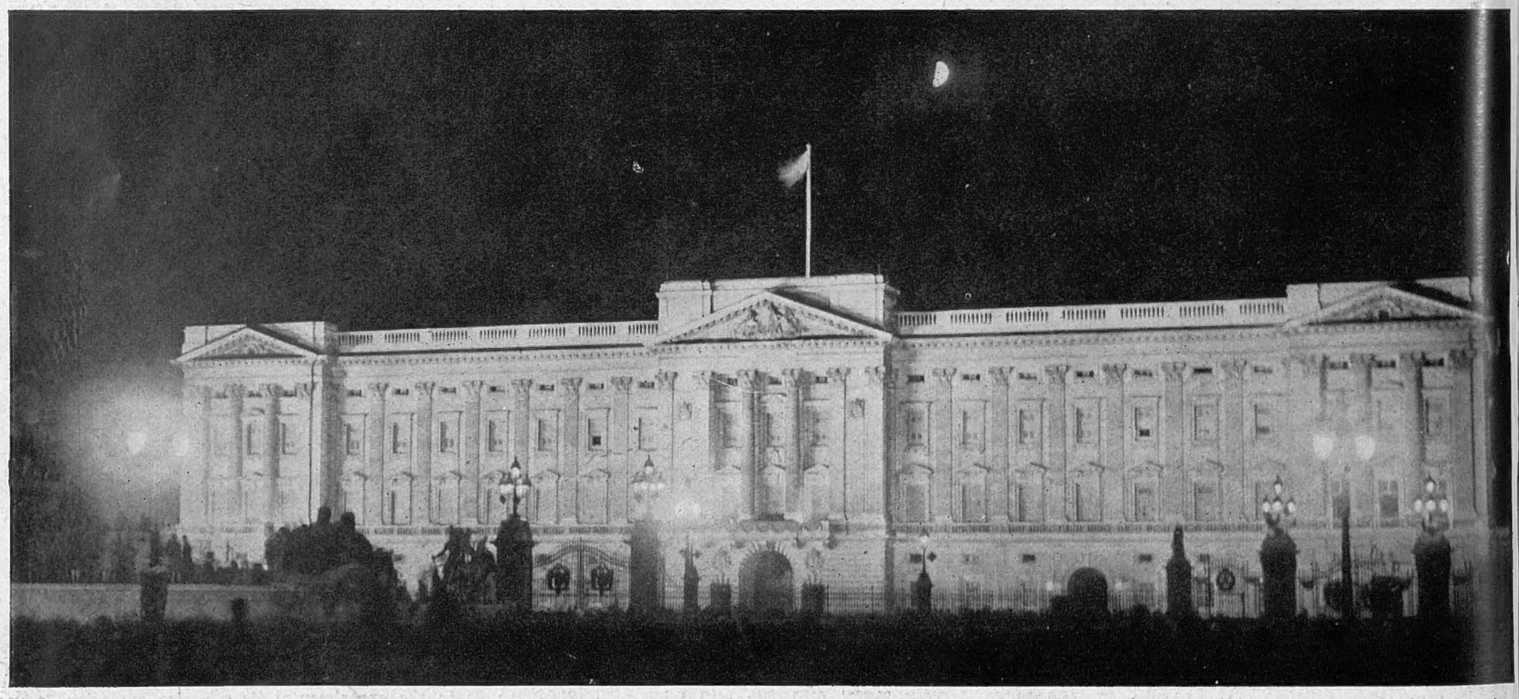
For the Great Peace Celebrations of Last Week

A Pictorial Record of a Memorable Sight

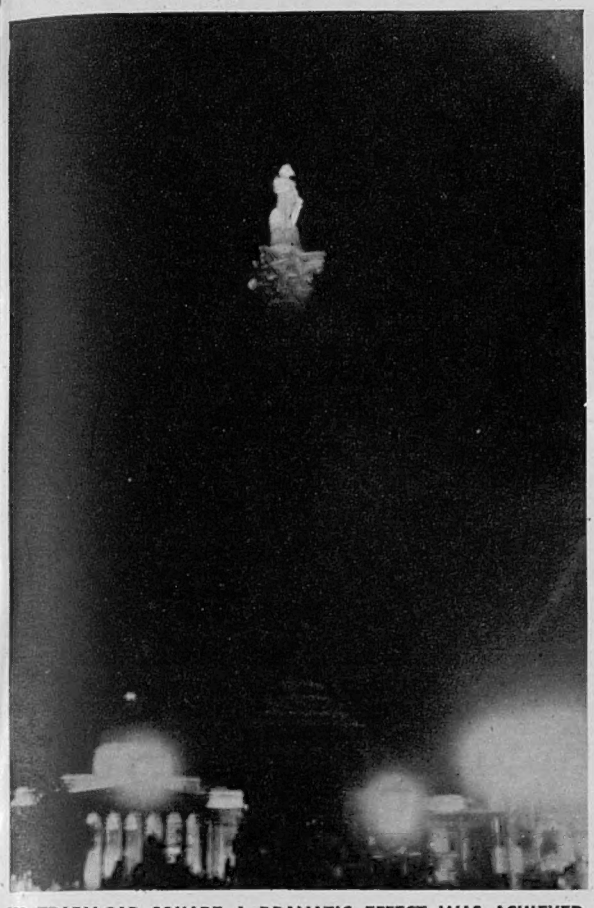
Now that the tumult and the shouting have passed, for many the most wonderful memory of all during Peace Week will remain the sight of London's historic buildings floodlit to mark the end of six years of war.

The pictures reproduced here will convey to readers who were not able to be present in the capital some impressions of this great Festival of Light, which was as inspiring as (to the great majority who witnessed it) it was unexpected.

BIG BEN AND THE PALACE OF WESTMINSTER BATHED IN A WARM LIGHT, and reflected in the placid waters of the River Thames: Over the lofty Victoria Tower (on the left) the Union Jack floated in the breeze, specially spotlit from below. Most of the important buildings along the river, from the City to Westminster, had been floodlit for the Peace Celebrations



THE WHOLE FAÇADE OF BUCKINGHAM PALACE WAS LIT UP BY A BATTERY OF CONCEALED LAMPS ON THE GROUND: Above the Palace hung a pale half-moon; in front of the building and crowding every vantage point were thousands upon thousands of people, who kept clamouring for the King and Queen and the two Princesses—who made periodical appearances on the balcony



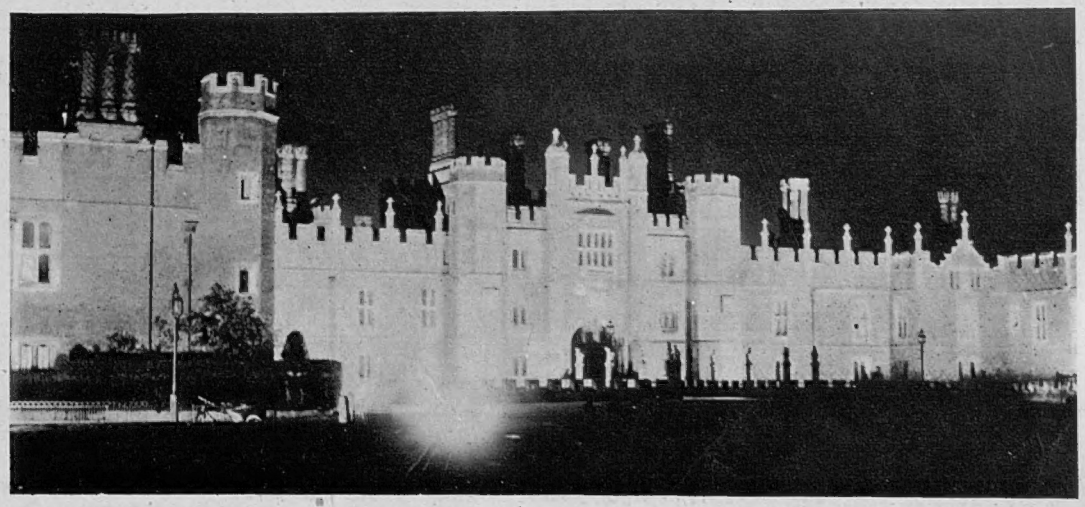
IN TRAFALGAR SQUARE A DRAMATIC EFFECT WAS ACHIEVED by the spotlighting of the figure of Nelson high up on his column

THE FRONT OF THE NATIONAL GALLERY, OVERLOOKING TRAFALGAR SQUARE, illuminated to show the graceful exterior : On the other side of the Square the Admiralty Arch was bathed in a pale greenish-blue light

THE HORSE GUARDS PARADE, IN THE CENTRE OF WHITEHALL—as seen from St. James's Park : To the spectator in the Park, both sides of it were aglow—Buckingham Palace at one end, and the Horse Guards and Admiralty Arch at the other

ONE OF THE MOST HISTORIC BUILDINGS IN LONDON—AND THE WHOLE WORLD : The massive stonework and rising turrets of the Tower of London revealed in superb fashion by the skilful floodlighting. In tier on tier the historic buildings rose to a crescendo, backed up by the dark night sky. This was one of the most fascinating of all the London spectacles

A SCENE FROM WESTMINSTER BRIDGE : The fireworks are dropping from the roof of Shell Mex House into the river



JUST OUTSIDE LONDON, THE TUDOR BUILDINGS OF HAMPTON COURT PALACE are thrown up into soft relief by red and amber lights, which made this famous pile a scene of the greatest enchantment

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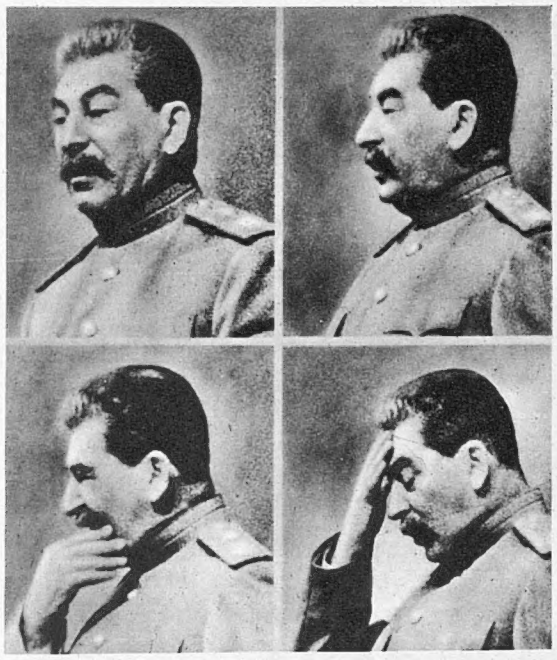


WHEN STALIN BRANDED JAPAN AS AN "AGGRESSOR NATION": This was as far back as November 1944, when Marshal Stalin made a speech to the Russian people. It was inevitable, therefore, that he should finally declare war on Japan. These pictures were taken from a Russian newsreel made during the course of his speech

POLAND and SPAIN

New Frontier Adjustments in Europe; and the Opening of the Tangier Conference

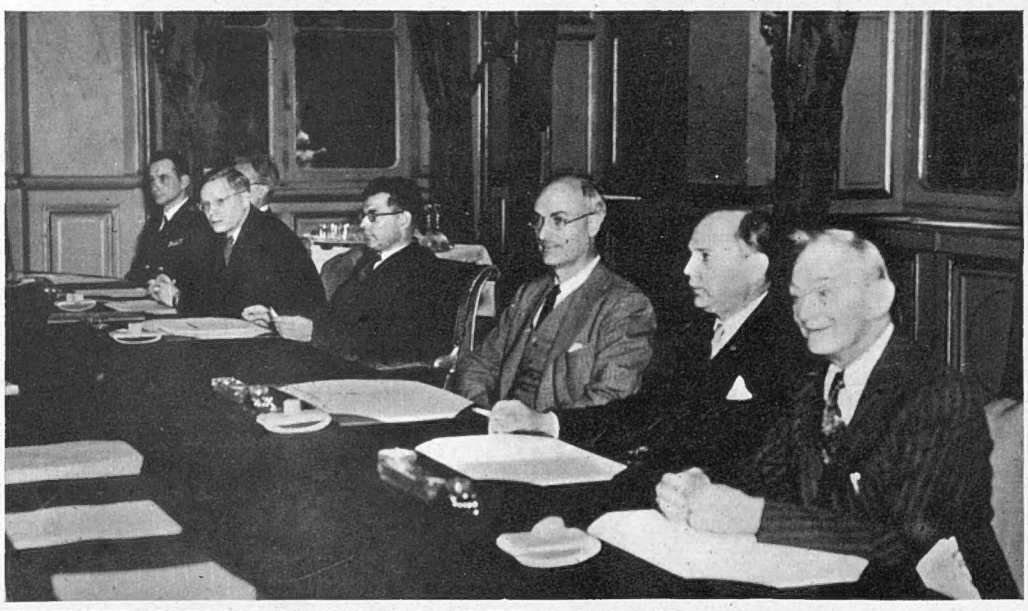
Though there was no full agreement at Potsdam over the western frontier of Poland, the Poles are confident that they will retain the new areas they are now administering. This gives them a western line along the River Oder and its tributary the Neisse, making a more or less straight line north to south, up to the Czechoslovakia frontier. A portion of East Prussia, south of Konigsberg (which goes to Russia), has been granted to Poland, who thus gains a sea coast from the mouth of the Oder to just south of Konigsberg—a great enlargement of the narrow corridor to Danzig. All the territory seized by Poland east of the Curzon Line has been returned to Russia. The shape of the new Poland is almost square, and is certainly far better from a security point of view than the pre-war Poland, when the frontier line was very long and the Germans had a salient in the north, in East Prussia.

The old German provinces of Pomerania, on the Baltic, Posnia, and most of Silesia have been added to the former Poland, greatly enriching her in industries and in rich agricultural land. Silesia, with the important town of Breslau, brings valuable industries, vastly increased by the Germans during the war, and a rich coal area, said to have a quarter of the coal reserves of Europe.

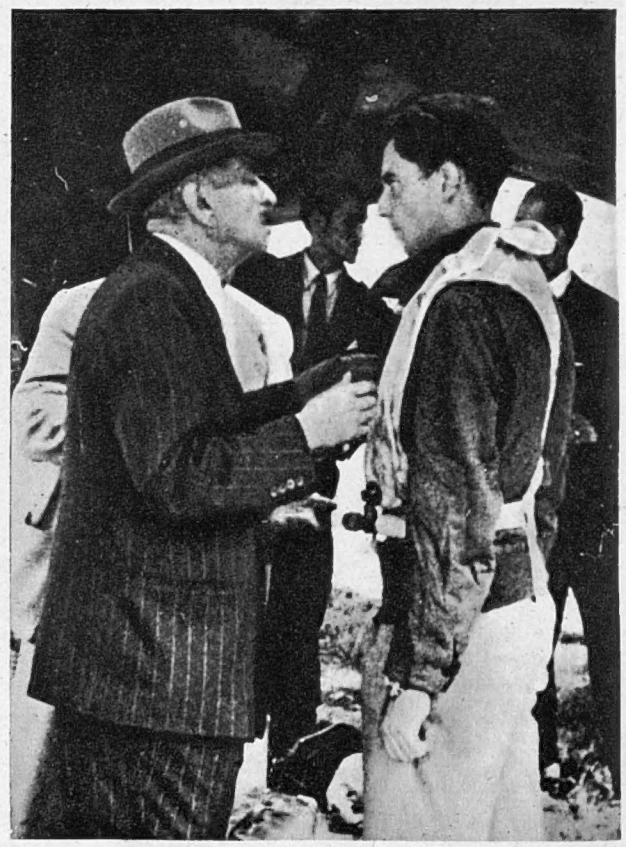
THE NEW FRONTIERS OF POLAND—a great strip of Germany is awarded to the country in advance of the Peace Conference: This extends from Stettin to the Czech frontier. At the same time the Russians have taken over a big slice of East Prussia—*Special Sphere Map*

Three million Poles from east of the Curzon Line have been moving westward, and all the Germans in Silesia, East Prussia and Pomerania are to be removed. The mass transfer of Germans, carried out with the same apparent lack of humanity as the Nazis used in the time of their power, has been going on. The Germans pushed across the western frontier, where an acute refugee problem has arisen. The Allies have now issued orders that this transfer is to be regulated.

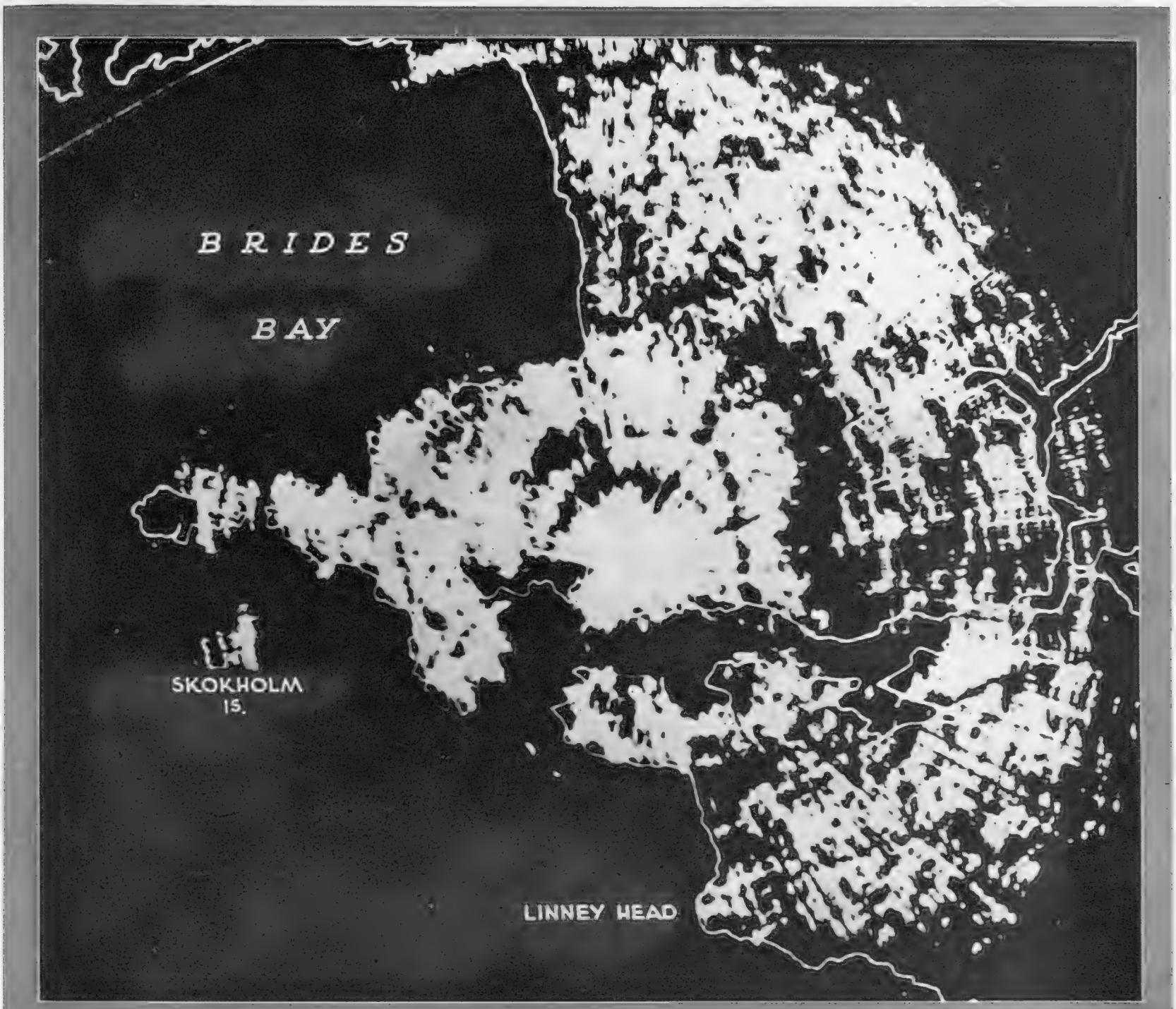
Poland, having made a 20-year pact with Soviet Russia of friendship, mutual assurance and co-operation, and having full approval from Moscow, is busily taking over the new areas. The United States and Great Britain, though friendly to Polish claims, have hesitated before giving full agreement with the Oder-Neisse Line, which is left for formal consultation at the Peace settlement.



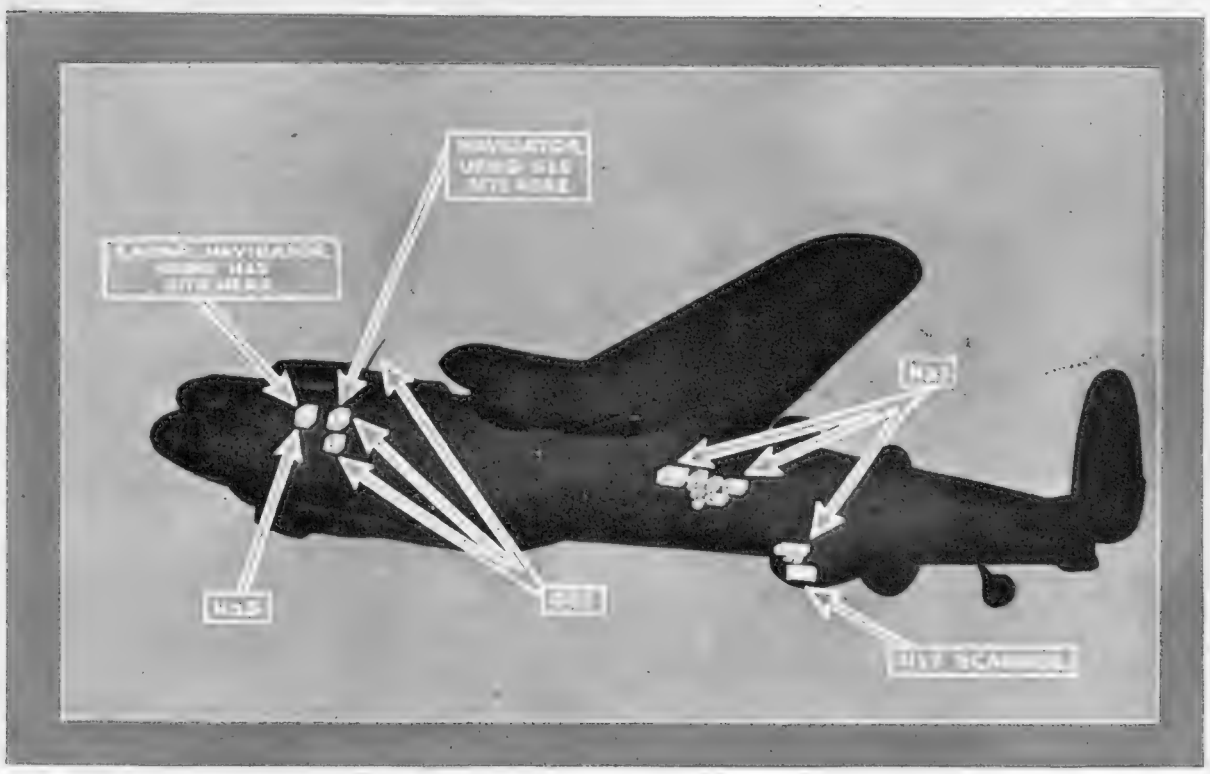
THE TANGIER CONFERENCE BEGINS IN PARIS AT THE QUAI D'ORSAY—The Russian and American Delegation at the opening meeting: M. Vidianof, M. Bendarenko, M. Doudenewski and M. Kozgrev (chief U.S.S.R. delegate), Mr. Viilard (chief U.S. delegate), Mr. Childs and Mr. Dempster. On Friday, August 10, the Conference on Tangier opened in Paris, when procedure was decided on. Britain, France, Russia and the United States are taking part, but Spain is not represented despite her protests. The Conference is to decide the future government of the territory, where power was usurped by Spain during the earlier stages of the European War, when Britain was comparatively helpless to resist



BEFORE LEAVING SPAIN AFTER HIS EXPULSION: Pierre Laval trying to bribe one of his German pilots. According to an authoritative eyewitness, Laval offered the two Germans 1,000,000 francs each if they would fly him to Portugal or some other neutral territory. The pilots refused



THE PICTURE ACTUALLY SEEN IN A BRITISH AIRCRAFT BY NIGHT: THE UNSEEN GROUND BENEATH THE PLANE IS REVEALED TO THE PILOT ABOVE—"Navigation was by instruments." This photograph at last shows how it was done! It is, in effect, a radar map of the south-western tip of Wales as shown at night on the cathode-ray tube of the "H2S" apparatus carried in R.A.F. bomber aircraft. The picture was taken direct from the growing and continuously changing green pattern on the tube during a test flight by scientists of the hitherto secret Tele-communications Research Department. Improved equipment later gave even greater detail. Nothing has been added to this photograph except the thin outline emphasising the actual coast and the names. The inlet is that in which Milford Haven and Pembroke are the actual towns



THE SECRETS OF RADAR REVEALED

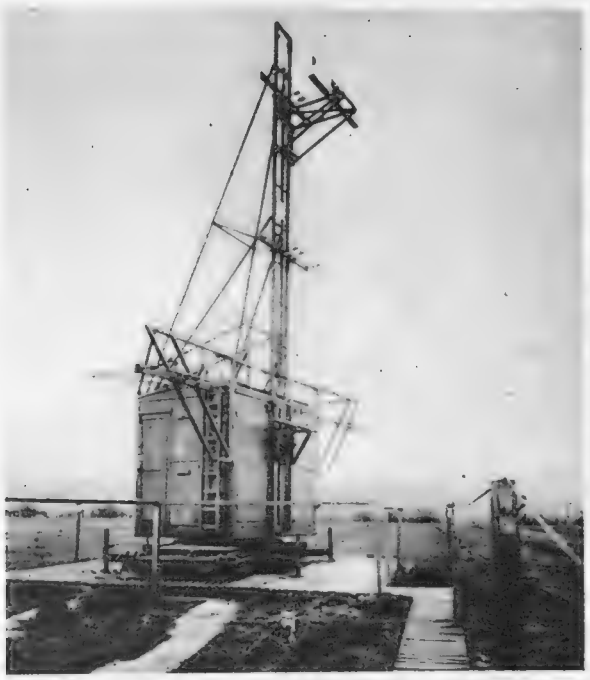
The First Pictures to Show the Radio-location Developments which Helped the Allies to Victory—by Land, in the Air and on the Sea

Radar solved our problems of both defence and attack in the air and made possible the crippling of Germany by bombing. It was used also at sea and by ground defences; and although the enemy countries followed in our footsteps they never caught up with Allied developments.

In brief, not only was the approaching Luftwaffe "seen" by radio-location long before it was visible from our coasts in the Battle of Britain, as the Government disclosed in 1941, but the system also gave us the height, numbers and direction of enemy formations. Since then radar has been applied during

(*Continued on following pages*)

On left—**THE "GEE" SYSTEM, BY WHOSE MEANS AS MANY AS 1,000 BOMBERS COULD BE CONCENTRATED OVER GERMAN TARGETS IN AN HOUR, through constant information from ground radar stations in England:** This system operates through the small pine-like aerial indicated near the top of the cockpit. The "H2S" system depends on the revolving "scanner" aerial shown in the blister below the bomber. The number of separate boxes indicated here as employed by the two equipments is a minimum: other radar devices may account for as many as thirty additional boxes in the bomber, using altogether hundreds of valves



THE EARLY TYPE OF ANTI-AIRCRAFT FIRE CONTROL EQUIPMENT, which had to be sited on a specially prepared flat site and was relatively immobile : The wire-netting screen was used to overcome the undesirable effects caused by irregularities in the ground. But the need for these screens disappeared with the development of modern radar sets

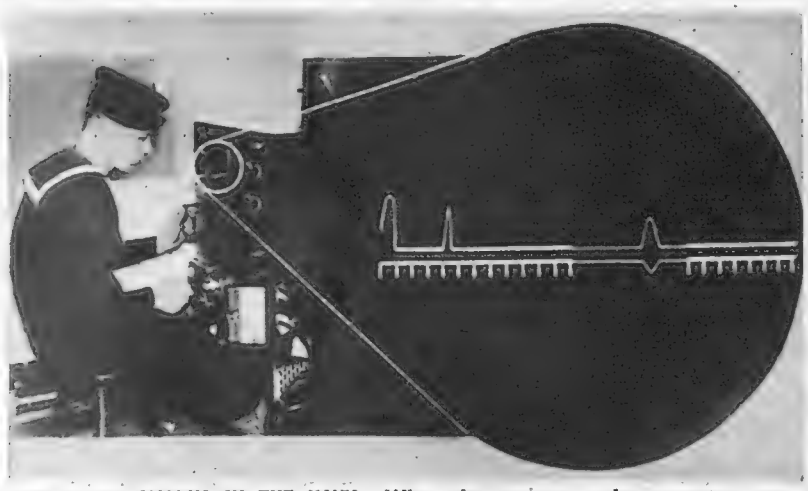
ONE OF THE "CHAIN HOME LOW" STATIONS : These stations were erected to detect and report low-flying aircraft. They were usually situated near the coast. The aerial equipment consists of power-turned five-bay four-stacked arrays. These "Chain Home Low" stations were mounted on either a 20-ft.-high gantry or on a 185-ft. high tower, according to the nature and height of the site above sea-level. The arrays were designed for a common aerial working—that is, with the same array functioning as both a transmitting and receiving aerial

A MODERN RADAR-CONTROLLED SEARCHLIGHT EQUIPMENT which was of great assistance to A.-A. gunners and the R.A.F. in shooting down night bombers : They were also extensively used during the flying-bomb attacks in 1944

(CONTINUED FROM PRECEDING PAGE)

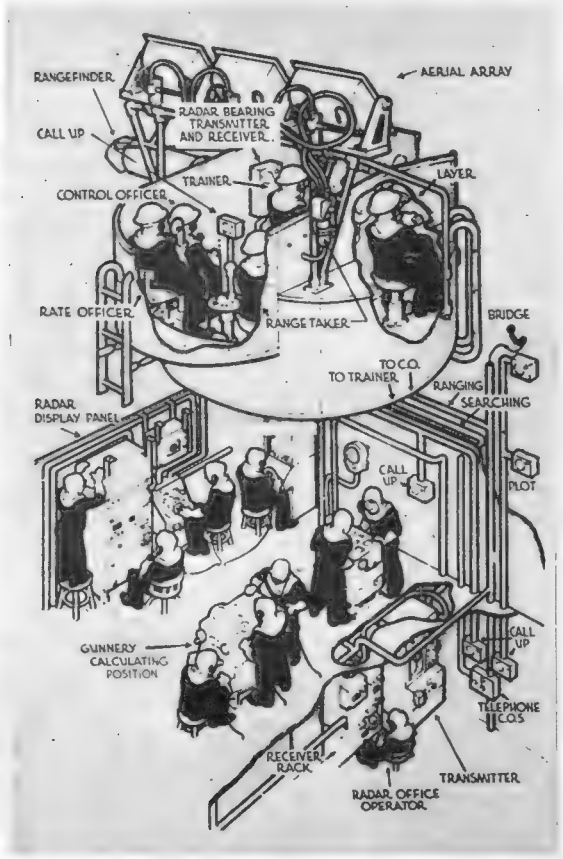
the war so that night fighters, directed towards their quarry by radio-telephone from ground radar stations, finally found and chased the enemy aircraft or flying bombs by the aid of their own, smaller radar sets. The "scalded cat" raids on London were defeated by this system.

Our bombers could take-off, navigate and return from mass saturation raids with minute accuracy, fixing their positions on special gridded maps by the aid of what are known as "Gee" signals from ground radar stations. In two months "Gee" changed the numbers of bombers we could send over a target in an hour from 100 to 1,000. It was universally used on D-Day by bombers, troop-carrier and coastal aircraft, and also by naval units-



HOW RADAR WORKS IN THE NAVY : What the gunnery radar operator sees—the target is here indicated by the inverted "V" on the right of the upper trace. He has matched the lower "V" and the range is thus transmitted automatically to the ship's guns

BY MEANS OF RADAR, THE SURFACE SHIP HAS PICKED UP A FORMATION OF ENEMY VESSELS : These are shown as bright marks on the dark screen in the left-hand corner of the picture



RADAR AT SEA

When radar came to the ships, it came, in the first place, rather as another new gadget. That phase did not last long, as its potentialities were more and more recognised. To be presented suddenly, with an invention which produced a clear picture of everything one cannot see at sea—everything which had hitherto been too small or too far away or too obscured by rain or fog—this was a fantastic luxury for seamen.

Giving, as it did, a clear picture of a whole convoy, and its outlying escorts, Radar was a tremendous help in station-keeping at night or in bad weather; and it revolutionised, overnight, the whole practice of gunnery. At the turn of a knob the Gunnery Control Officer could now pass to all guns an exact range and bearing of the target, and keep track of the smallest changes as they occurred.

The development of radar not only made the convoy defences as effective by night and in fog as by day; it altered the whole U-boat campaign by giving us the means, once a U-boat was located, of hunting it to exhaustion, and thus of taking the offensive. Previously the U-boats had only been in danger when they attacked, now they were hunted prey from the time they left their bases. Unable to live without breathing, liable to be attacked whenever they surfaced for air.

But the greatness of this scientific achievement must be fully recognised. The detection of so small an object as a submarine conning-tower presented a very difficult scientific problem, and the solving of it in so short a time, at such a vital stage, was one of the major events of the whole war.

The technique established by the development was later applied by all the

On left—

SIGNALS ARE PICKED UP ON A SHIP'S AERIAL ARRAY : The radar operator (at the bottom) sees the "echo" and transmits its range to the Gunnery Calculating Position. The layer and trainer in the Gun Director transmit the bearing of the target. If the latter cannot be seen, the radar display panel (on left) is used to provide a bearing, and the guns are thus able to fire "blind." The remainder of the crew seen in the picture are members of the ships' gunnery team

AIRCRAFT HAVE BEEN CAUGHT IN THE RADAR BEAM OF A WARSHIP : Plane "A," which is not fully in the beam, is seen by the radar operator as the smaller inverted "V" in the circle on the left; but plane "B," in the full beam, is seen as the larger inverted "V" on the right. The "hump" on the left is the radar transmission signal

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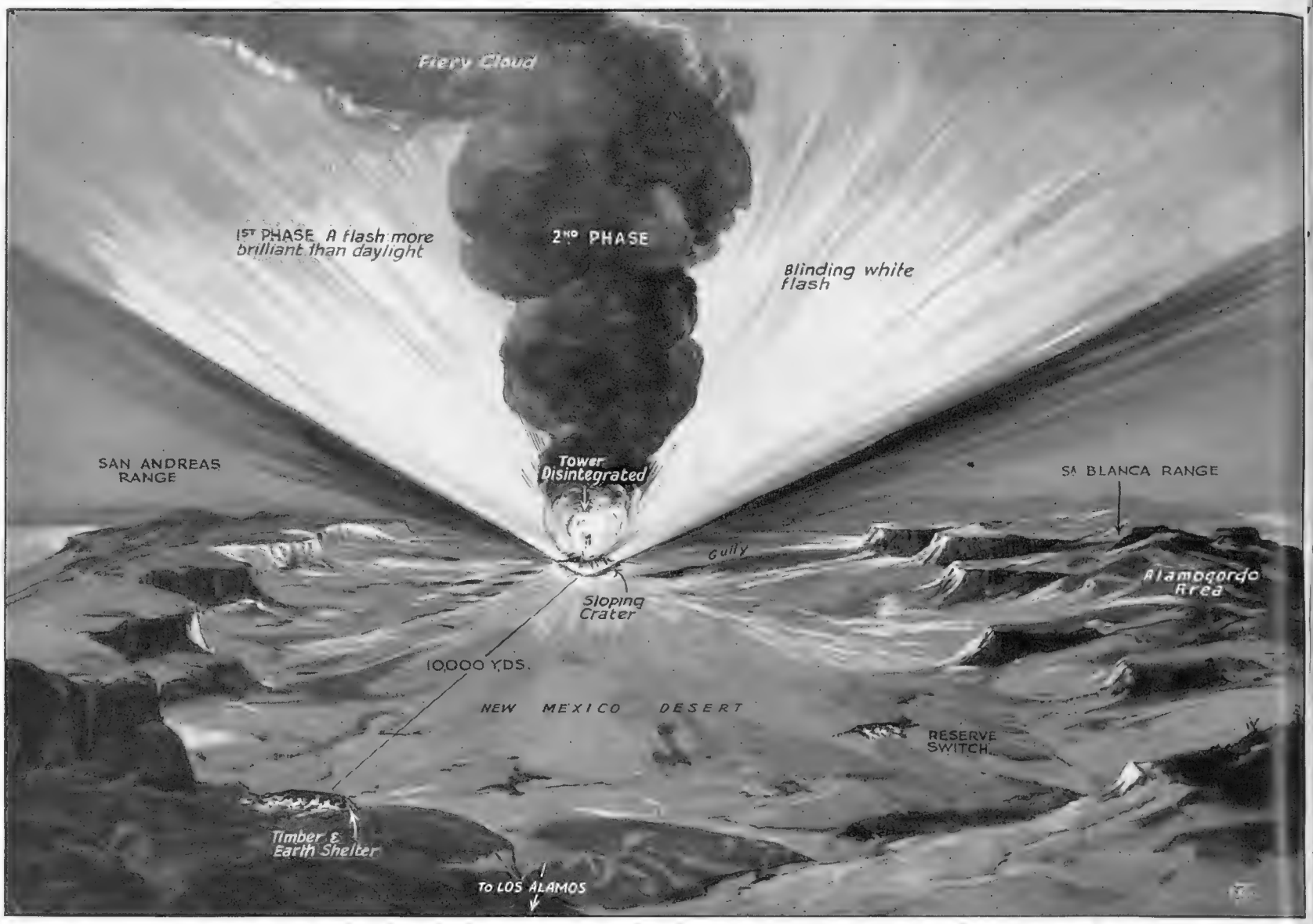
AMERICA'S LATEST—"THE SHOOTING STAR": THIS QUEER-LOOKING AIRCRAFT IS THE LATEST AMERICAN JET-PROPELLED PLANE. Housed in its snout are the deadly guns; on each wing-tip are auxiliary petrol-tanks which can be jettisoned at need; they provide enough fuel for long-range missions. The twin air-ducts for the jet engines are visible on each side of the plane. In one of its recent test flights, the "Shooting Star" made a journey from Wright Field at Dayton, Ohio, to the La Guardia Aerodrome in New York in 1 hr. 2 mins.—a distance of 589 miles

A QUEER-LOOKING AIR MONSTER: With a small wing in front, and a larger one behind, this strange-looking aircraft when in flight gives the impression of flying backwards. It is called the "Libellula," and was designed by Mr. George Miles, chief designer of the firm which produced the Miles Master. It is a tandem-winged, twin-engined machine, giving the pilot an unobstructed view, which makes the aircraft extremely suitable for use on naval carriers

A RECORD FLIGHT FROM NEW YORK TO PARIS: This is a C69 "Constellation" of Air Transport Command, on La Guardia Aerodrome, New York. On July 31 it took off for Paris and established a new record of 14 hrs. 12 mins. for the cross-Atlantic journey

On right—**THE SEAFIRE XV COMES OFF THE SECRET LIST: One of the new aircraft the moment before it touched down on the deck of H.M.S. "Pretoria Castle." (Note the "sting"-type hook.)** Details of the Seafire XV, the fastest naval interceptor fighter built in Britain, have just been released by the Admiralty. Its speed is in the neighbourhood of 400 m.p.h. Its 1,890 h.p. Rolls-Royce Griffon VI engines give an increase of 300 h.p., a higher ceiling, and a greater rate of climb than in any other British-built naval fighter. It has a span of 36 ft. 10 ins., and it weighs about 8,000 lbs. Ceiling is over 35,000 ft.; the armament consists of two 20-mm. cannon and four ·303 machine-guns, and the bomb-load is 500 lbs. It is fitted for rocket-assisted take-off from the flight deck of an Aircraft Carrier



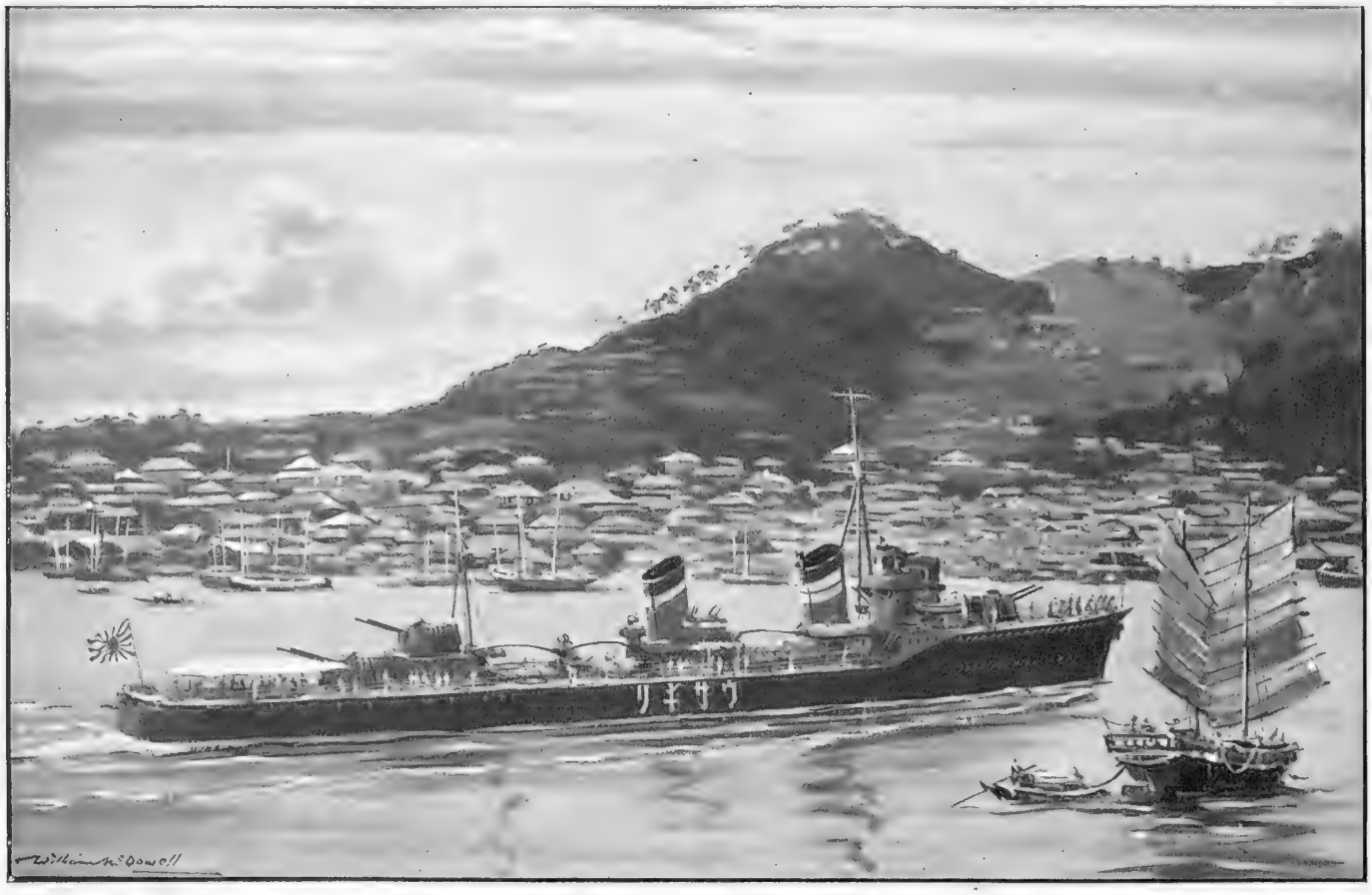
WHAT HAPPENED WHEN THE ATOMIC BOMB WAS EXPLODED IN THE UNINHABITED DESERTS OF NEW MEXICO—An impression of the terrific blast, the blinding sheet of white flame and the towering cloud of dust which followed the experimental detonation of the first bomb—*Drawing by E. G. Lambert*

The first test of the new atomic bomb took place at 5.38 a.m. on July 16 at the air base of Alamogordo, in a remote section of the New Mexico desert. When the test was over the explosion had completely vaporised the steel tower on which the weapon was mounted. Eye-witnesses said that where the tower once had stood there remained only a huge sloping crater. The nearest observer was 10 000 yards from the tower, at a point where the controls for the weapon were housed, in a timber and earth shelter. When the bomb was set off a burst of light, brilliant beyond comparison, illumined the whole area more intensely than daylight. About 40 seconds later came a shock wave which knocked down two men outside the control area. Then there was a tremendous sustained roar. A massive cloud was formed, which surged and billowed upward with visible power, reaching a great height and being dispersed by winds as it rose. The fiery cloud rose 40,000 ft. into the stratosphere in five minutes. The blast caused consternation throughout South-West New Mexico and Southern Arizona. Forest rangers over 150 miles away thought there had been an earthquake. Windows rattled 250 miles away in Gallup, New Mexico. An Army pilot saw the flash from the explosion nearly 350 miles away in California

The Coming of the ATOMIC BOMB

The First Experiment in the U.S.; and Its Probable Shape and Size—and Its Effect on the Japanese People

—*Special Sphere Pictures*

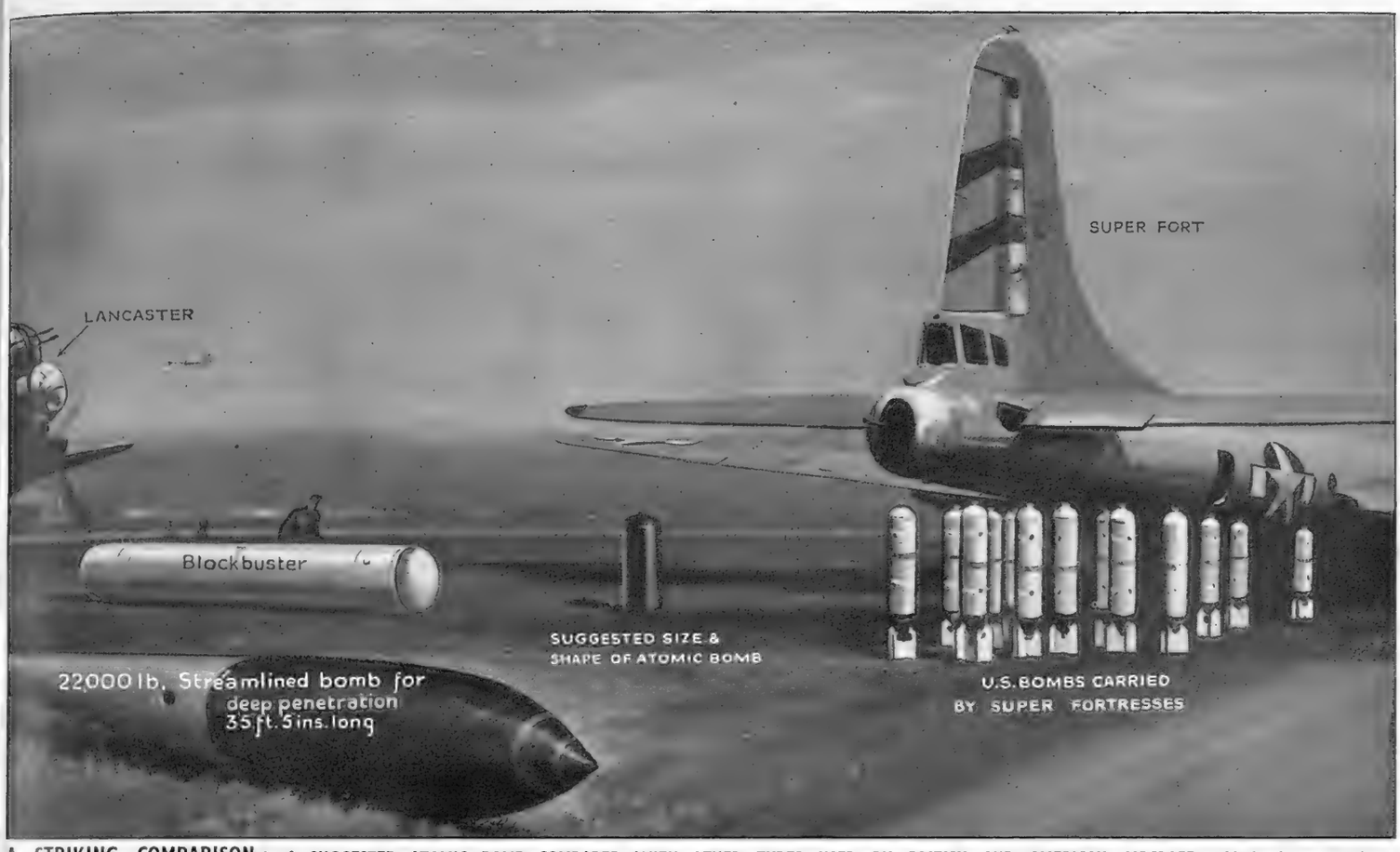


WHERE THE SECOND BOMB WAS EXPLODED—an impression of the harbour at Nagasaki where a large part of the city now no longer exists. The bomb was dropped here on August 9, just before news came from Tokyo that the Japs wished to capitulate
—*Drawing by Wm. McDowell*

Nagasaki was a city with a population of 250,000 people. It is probable that it now no longer exists—for, on August 9, the second atomic bomb was dropped there by an American pilot. Shortly after, it became known that the Japs had sued for peace!

Situated on the southern "home" island of Kyushu, Nagasaki was a great shipbuilding centre, and the chief supply port for the Jap Army in Manchuria. It lies at the head of a 3-mile-long inlet and is essentially a centre for big shipping. It was through the great harbour that communication with the western world was largely maintained during the period of self-chosen isolation of the old Japanese Empire.

The main area of the city is so closely built-up that the houses stand eave to eave, so that Nagasaki has been described as a "sea of roofs," as indicated by Mr. McDowell in his drawing reproduced on the left.



A STRIKING COMPARISON: A SUGGESTED ATOMIC BOMB COMPARED WITH OTHER TYPES USED BY BRITISH AND AMERICAN AIRCRAFT. Little has yet been revealed as to the shape or size of the new weapon; but it has been stated that the atomic bomb is a 400 or 500 lb. missile. Here it is compared with a "blockbuster" of the R.A.F. and a 22,000 lb. streamlined bomb (on the left), and with the normal type of finned bomb normally carried by the American Super-Fortresses (on the right). The shape and size indicated in this drawing are both conjectural: according to Japanese report, the atomic bomb is dropped by parachute and explodes in the air above the target

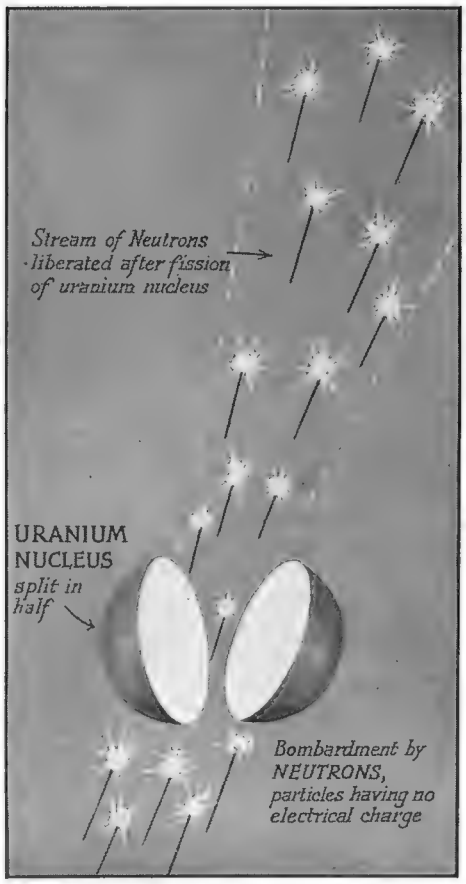
THE PLIGHT OF THE JAPANESE CIVIL POPULATION AFTER THE COMING OF THE ATOMIC BOMB: City dwellers flee from the terror out into the countryside after President Truman's warning broadcast of the fate that awaited the Japanese nation—*Drawing by W. G. Whitaker*

"If Japan does not surrender," declared President Truman, "atom bombs will be dropped on her war industries and thousands of civilian lives will be lost. I urge Japanese civilians to leave the industrial cities immediately and save themselves from destruction. The Japanese have seen what our atomic bomb can do. They can foresee what it will do in the future." There is strong reason to believe that the Japs acted on this warning and began a mass flight from the big cities almost at once. Evacuation of women and children had been going on in Japan for some weeks, especially from the big cities and from Tokyo, the capital. They were to be out of the way of the men left behind to help the regular Jap troops in case of an Allied invasion. After the first atomic bomb had fallen this movement was greatly accelerated until it had become almost a panic

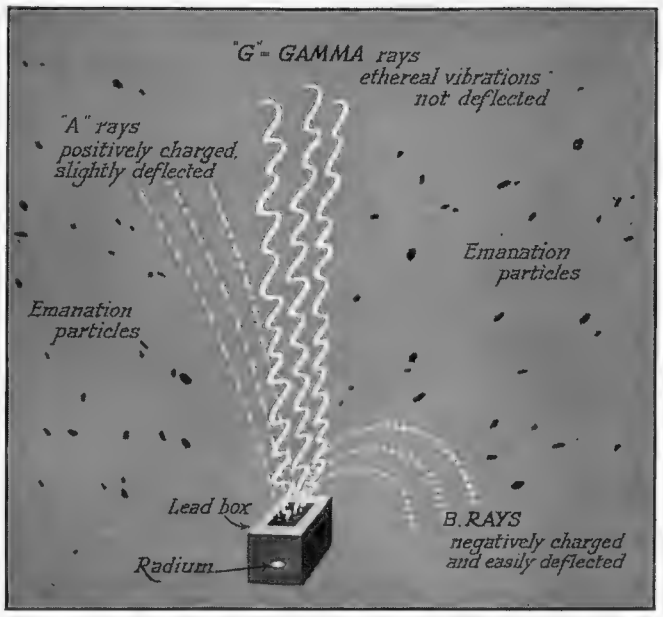
WHAT HAPPENS WHEN AN ATOMIC BOMB EXPLODES

Links in the Chain which Led to Great Scientific Discoveries

—Special Sphere Diagrams and Drawings

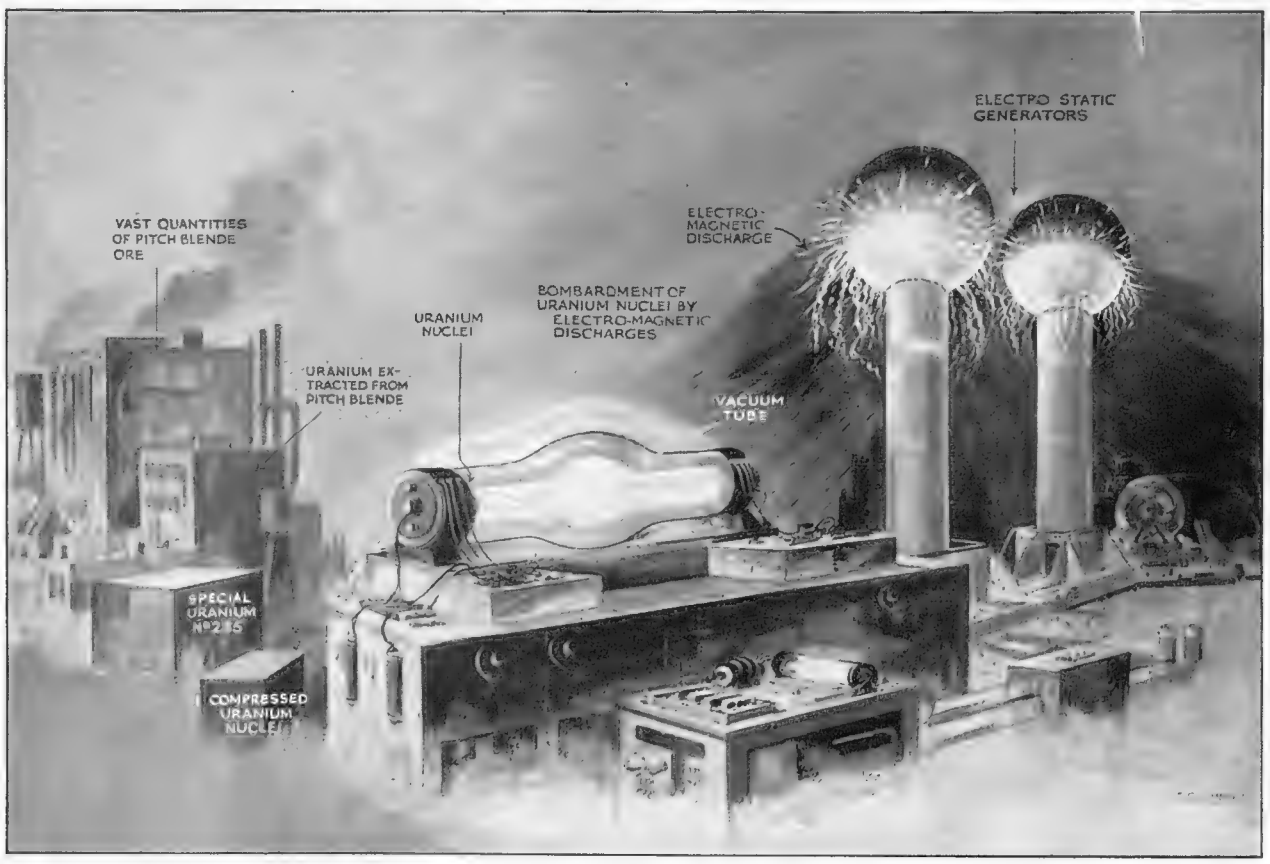


THE CRUCIAL SPLITTING OF THE URANIUM NUCLEUS: One of the most important factors, near the end of the chain of operations in the making of an atom bomb, was the splitting of uranium nuclei by neutrons. This was in continuation of the experimental work done in 1939. At that time it was found that when uranium atoms were bombarded with neutrons (which are particles having the same mass as the hydrogen nucleus, but no charge), the uranium atom split into two more or less equal parts. "The danger that a system containing uranium in high concentrations might explode, once the chain is started, is considerable" was written at the time. This was exactly what the workers on the atom bomb in America desired!



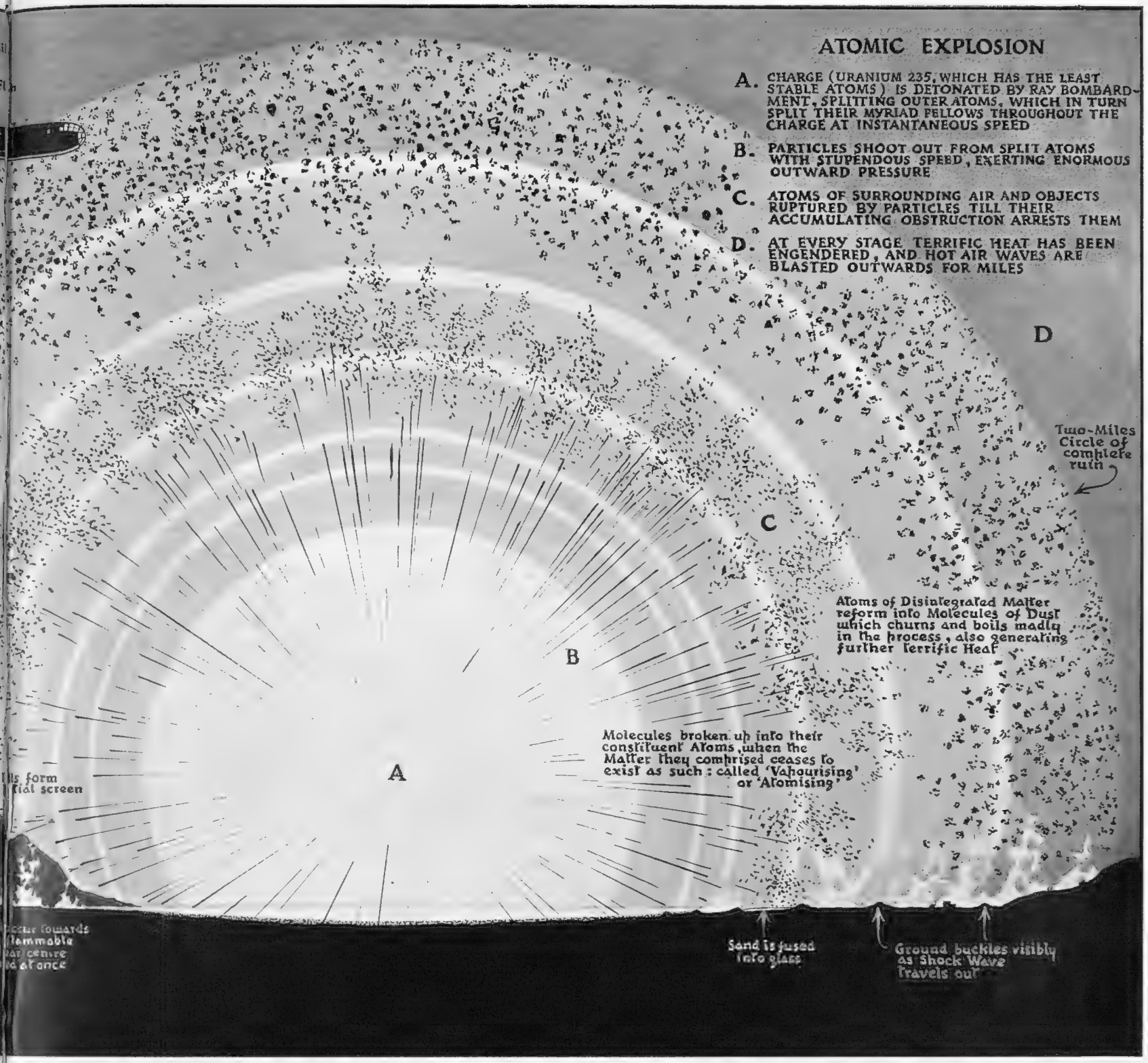
LEADING UP TO THE SPLIT ATOM: The various radio-active properties of radium as set forth by Madame Curie. The chief products of the radium disintegration are here shown in a diagram modified from Madame Curie's own drawing. The radium is shown enclosed in a lead box open at the top; the rays are compelled to travel upwards out of the same orifice, and it is possible in this way to show how far certain of the rays can be bent out of their initial path when subjected to magnetic impulses. It will be noted that the B rays are most easily bent out of their course, and the A rays to a less extent. The Gamma rays, very ethereal vibrations, appear to take no notice of a magnetic field. The emanation particles are shown diffused all over the area covered by the diagram. It should be mentioned that radium is constantly ionizing the air around itself and is constantly emitting heat

WHEN THE ATOMIC BOMB EXPLODES: The large diagram reproduced on the right sets out to explain this, and to show how it compares with the explosion of the more familiar H.E. The latter is seen in the lower left-hand of the drawing: it depicts the explosion of a ten-ton "Grand Slam," and is drawn to the same scale as that of the atomic bomb explosion. The charge in the latter weighs only 8 lbs., and the whole bomb weighs but 400 lbs. The essential descriptions are given in capitals: additional details are given in smaller type on the drawing. The two explosions are quite distinct in nature. The high-explosive bomb is concerned with *molecules* of matter only, the atoms themselves being unaffected. Abnormal pressure, or blast, is the most noticeable characteristic. Heat is of little account, and will not even start fires unless materials such as coal-gas or petrol are present, such as anyone can ignite with a mere match. The atomic bomb, on the other hand, is concerned with the very heart of the matter: the results are therefore on an entirely new scale, unprecedented and transcendant. A just-discernible speck of matter comprises at least a trillion atoms, so that a million million million stupendous energy is locked up in them. The speed of the liberated "particles" indicated in the diagram would take them right round the world in less than one second! The pressure generated is, of course, on a terrific new scale, but the outstanding effect on atomic explosions is that of heat. But a sense of proportion should be kept in face of this staggering visitation. The isotope Uranium 235, which alone can be so exploded, comprises less than one-tenth of 1 per cent. of uranium.

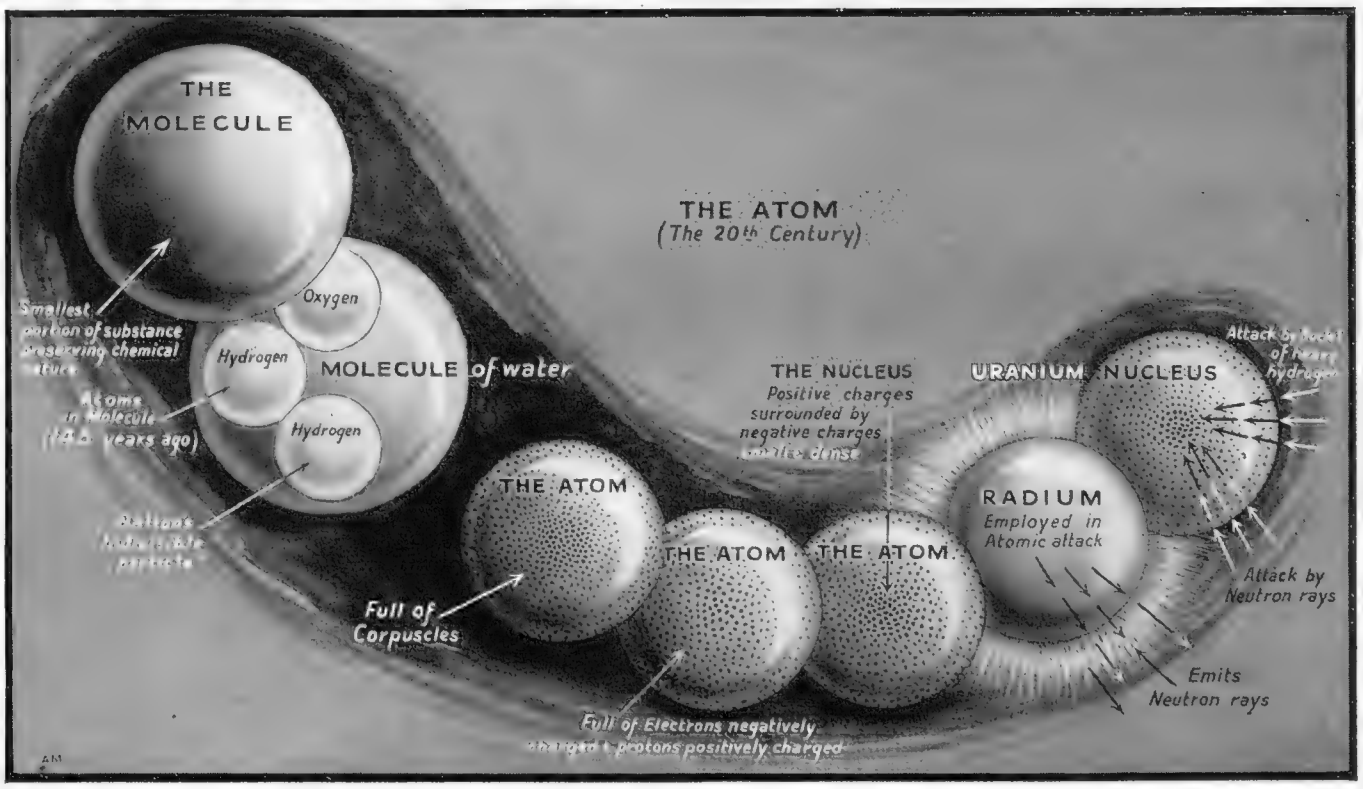


***On left* — WORKING TOWARDS THE SPLIT ATOM—an artist's impression of some of the difficulties overcome by the scientists**—*Drawing by E. G. Lambert*

In working their way towards the exploding of an atomic nucleus and of a perfected (or useable) atom bomb, scientists made use of certain factors which are here shown in a simplified form. It was realised that the most profitable line of research lay in the direction of Uranium, the heaviest of the ninety elements. Uranium is one of the three most active radio-active elements. It had to be extracted, or boiled down, from the crude ore pitchblende which is found in large quantities in Canada, the United States and the Belgian Congo. The most attackable form of Uranium was "Uranium 235." The next problem appeared to be the coalescing of the nuclei of "235." Once possessed of promising targets, scientists began to bombard the atomic nuclei. Rutherford, one of the famous pioneers in this work, made atoms "explode" in a limited way and induced the artificial disintegration of nitrogen. At Rutherford's death in 1937, scientists all over the world were making experiments to split uranium and other atoms from which the largest energy might be obtained. Cyclotron machines for applying powerful electrical current had been set up in this country, in the United States and elsewhere. Efforts were being directed with good hope of success towards the reduction of the great voltage required. At that time it cost more to break up an atom and release its energy than the energy was worth!



AN ATOMIC BOMB EXPLOSION IN ITS FOUR STAGES—COMPARED WITH THE EXPLOSION OF A TEN-TON HIGH-EXPLOSIVE BOMB: In the former case "energy" disintegrates the surrounding atmosphere with catastrophic effect and with the generation of terrific heat; this causes the "vaporisation" of the target area. The process is outlined in the notes on the left—*Drawing by S. W. Clatworthy (Artist's copyright in the United States and Western Hemisphere)*



On right—**THE PROCESSION OF DISCOVERY (from left to right), beginning with the molecule, passing through the atom, corpuscle and electron, to the neutron** — *Drawing by A. Morris.* The smallest portion of any given element was recognised as a molecule; Dalton formulated the chemical theory that the molecule was built up of the smallest portions of matter, the atom. Thus a molecule of water was found to consist of one atom of oxygen and two of hydrogen. Other molecules might contain hundreds, thousands of atoms. Then, as research proceeded, came the discovery that these atoms were themselves full of much smaller particles known in the earlier days as corpuscles. The electrical charges which these small particles held were subjected to close study, the pressure of accumulating experiment brought about a change in terminology, and the corpuscle became an electron These particles were full of electricity. The importance of the nucleus then emerged. These positive centres of the atom were found to be of vast importance in its structure. The nuclei began to be attacked by scientists.

BRITISH NAVY PLANES BLAST AN AIRFIELD IN JAPAN: The barracks on Tokushima airfield on Shikoku Island are hit by bombs from aircraft flown from the carriers of the British Pacific Fleet's Task Force

A DIRECT HIT IS SCORED ON A JAPANESE ESCORT CARRIER OF THE KOBE TYPE in the waters north of Takamatsu, on Shikoku Island, on July 24. The carrier was wrecked by a bomb going down the lift-well

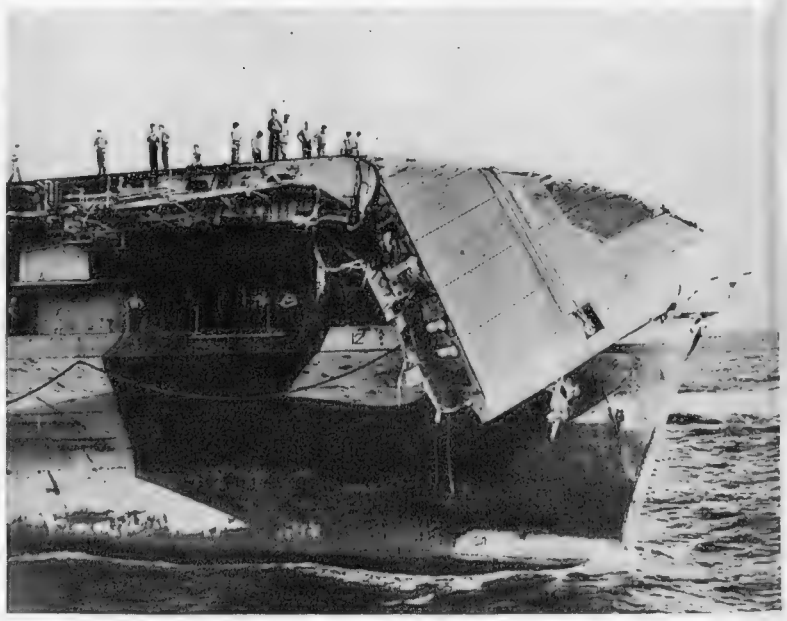
From July 17 until the Japanese surrender, a fast Carrier Task Force of the British Pacific Fleet had been operating with Admiral Halsey's U.S. Third Fleet in strikes against the Japanese home islands and targets in the Tokyo area. The British force, under the command of Vice-Admiral Sir Bernard Rawlings, included the battleship *King George V* and the aircraft-carrier *Formidable*. These two pictures were taken during operations carried out by the force

SUPER-FORTRESSES STRIKE AT THE GREAT JAPANESE NAVAL BASE AT KOBE: The city and its installations are here seen in flames as a result. Just before the end of the Japanese war, the huge bombers were stepping-up their attacks, so that by mid-July the burned-out areas in enemy cities totalled more than 126 square miles. Then came the atomic bomb, and the entry of Russia—and Japanese resistance collapsed throughout the whole of the Pacific and Asia

BEFORE THE SURRENDER in the Pacific

The Bombing of the Japanese Homeland; and Naval Operations at Sea by the U.S. and British Fleets

BLASTING THE YOKOSUKA NAVY YARD: Towering billows of smoke mark the hits on this great naval base near Tokyo, as American and British aircraft from carriers struck on July 18 during a daring sweep which was carried out by the Third Fleet in Japanese home waters



THE FAMOUS AIRCRAFT-CARRIER "HORNET" IS BADLY DAMAGED—by the great typhoon: After fourteen months of warfare against the Japanese, during which her planes sank or damaged about 1,270,000 tons of enemy shipping and destroyed or damaged 1,410 planes, it took the typhoon of June 5 to stop the famous aircraft-carrier *Hornet*. The vessel is shown here as she made her way back to San Francisco, where she is now being repaired. Her flight-deck was badly damaged, as shown, by the terrific gale. Although unable to launch her planes in the usual manner after the storm, the *Hornet* backed into the wind and sent her reconnaissance planes aloft

WHEN THE AMERICAN LIGHT CRUISER "ST. LOUIS" HAD HER BOW BLOWN OFF BY A JAPANESE TORPEDO IN 1943—a picture only recently released by the U.S. Navy Department and taken just after a temporary bow had been fitted at a Pacific Advanced Base

The U.S.S. *St. Louis*, 9,700-ton cruiser launched in 1938, received a bad blow from a Jap torpedo plane in the Kula Gulf operations back in 1943. Since then the cruiser has been damaged twice more. At Bougainville she took six bombs, one of them a direct hit, but was back in action in three days. Later she was hit by a Jap suicide bomber that crashed on to her deck. Repaired at a West Coast yard, she went back and achieved a gunfire record at Okinawa, firing 26,265 rounds of ammunition in the battle for that strategic island. Here she is seen with the temporary bow she received after the Kula Gulf battle. With it she went home to a West Coast shipyard for permanent repair

FOUR AMERICAN SUBMARINES RESCUE ALLIED PRISONERS OF WAR IN THE CHINA SEA—oil-soaked and exhausted, British and Australian soldiers are picked up by the submarine "Sealion" (on left) and "Queenfish" (on right) three days after the former vessel had sunk the "Rakuyo Maru," a Jap transport which had the prisoners aboard. Four of the fifty-four survivors picked up by the "Sealion" died during the subsequent journey to Saipan, in the Marianas

Four American submarines, *Sealion*, *Barb*, *Queenfish* and *Pampanito* (assisted by the submarine U.S.S. *Growler*, now reported lost), sank at least ten enemy ships and rescued 159 British and Australian prisoners of war in a dramatic China Sea action which continued for five days. The prisoners of war—already victims of three years of captivity—were survivors of the Jap transport *Rakuyo Maru*, one of the ten ships sunk. The rescue by the submarines, in the face of both heavy enemy attacks and a raging typhoon, was described by Admiral Nimitz as "one of the most sensational stories of the war." Three of the submarines have received the Presidential Citation for extraordinary accomplishment

THE RUSSIAN ARMY PASSES BY—ALLIED SOLDIERS AND GERMAN CIVILIANS ALIKE PAUSE TO LISTEN TO THE MAGNIFICENT SINGING OF A PARTY OF RED ARMY MEN as they march through the bomb-stricken streets—
Drawing by W. G. Whitaker

BERLIN UNDER THE OCCUPATION

Life for the Germans—and for the Allies—in the Shattered Capital

The scene depicted in the above drawing was described by a correspondent in Berlin in the following words: "We stopped the car as a company of Russian soldiers marched by, singing and swinging their arms across their bodies in the old Tsarist style. They looked dirty, but their marching was easy and good, and their deep-voiced singing magnificent. We waited while they crossed the bridge, and when we could hear their voices no longer we drove on, stopped again, and what we saw in that street—a street mostly of old men, women and children—can be reproduced anywhere in Berlin. Women washing clothes beside the public pump, carrying buckets of water down cellar steps, shovelling potatoes into tins weighing them and pouring potatoes into bags"

SHOPPING IN BERLIN: 1—There are very few restaurants open in the centre of the city, but in the Kurfurstendamm Fraulein Freundt finds one with a menu posted outside: this offers barley soup, one piece of bread, potatoes with sardine gravy and salad and ersatz coffee. But she decided not to enter, as food coupons are required for meals—and these are too valuable to surrender *(see note at right)*

SHOPPING IN BERLIN: 2—Fraulein Freundt goes to the general stores where she is registered: on the counter in front of her are the rations she has bought

There are three ration scales, the largest one being for the heavy workers; a smaller one for "employed persons," and a smaller one still for those who do not work. Here are two pictures showing Fraulein Gerda Freundt, who is an interpreter employed by the British authorities, going shopping in Berlin. She gets the "employed persons" rations. In the picture above, on the counter, are—one loaf (three 'days' ration of bread), 2 ozs. margarine, ½ lb. groats, 4 ozs. sugar, 5 lbs. potatoes. All these, with the exception of the bread, are for one week. The monthly rations on the right are—4 ozs. real coffee, 6 ozs. ersatz coffee, 1 lb. salt, 1 oz. of real tea.

On right—

Although notices in English and German proclaim that it is an offence to barter and buy in Berlin's Black Market, and although the Allied authorities are making strenuous efforts to prohibit trading between the occupation troops and Germans, street-trading in almost every kind of portable goods is predominant in the hungry city. Berliners sell to obtain money to buy food. The troops buy to get souvenirs. These pictures were taken in the "Petticoat Lane" of Berlin, in the gardens by the shattered Reichstag

ALLIED TROOPS IN THE CENTRE OF THE CITY ENJOY THE NIGHT LIFE OF BERLIN: *On left*—British, American and Russian soldiers dancing with American Service-women and German girls in the Femina Night Club. *On right*—Allied troops, mostly Russian, watching the floor show

The most popular night club in Berlin is the Femina, in the Nurnbergerstrasse, where every evening troops of the Allied nations gather to dance and drink with the German girls. There is also a cabaret floor show by German and Russian artistes. The drinks served are cocktails (a vivid crimson, unpalatable concoction) and red wine, and they cost five shillings and seven shillings and sixpence each—an expensive "night out" for the soldiers. This, and other night clubs, was for a time out of bounds owing to the drinks being made from polluted water, which caused dysentery among the troops. The Femina is now in full blast again

THE BERLIN WOMEN RESUME THEIR SUNDAY "FASHION PARADES": Three of the costumes worn along the once-famous Kurfurstendamm

Despite the ruins and devastation, every Sunday sees a "fashion parade" in Berlin's once-famous Kurfurstendamm, where what is left of Berlin's "smart set" can be seen in modes and fashions almost equalling pre-war brilliance. The Unter den Linden was formerly the favourite parade, but owing to the heavy damage and the fact that it is in the Russian zone, the Berliners have now "taken over" the Kurfurstendamm for their public appearances in their latest frocks

IN THE BERLIN BLACK MARKET, where street-trading still goes on: Russian troops, men and women in the Reichstag Gardens barter with German civilians for clothes and souvenirs. Such trading is prohibited—but it still goes on

ALL QUIET IN THE REICHSTAG GARDENS, where a notice is prominently displayed to warn troops and civilians not to sell or barter: The reason for the peaceful appearance of the Black Market is the presence near by of German civilian police, who make occasional raids at this spot

WAR and PEACE

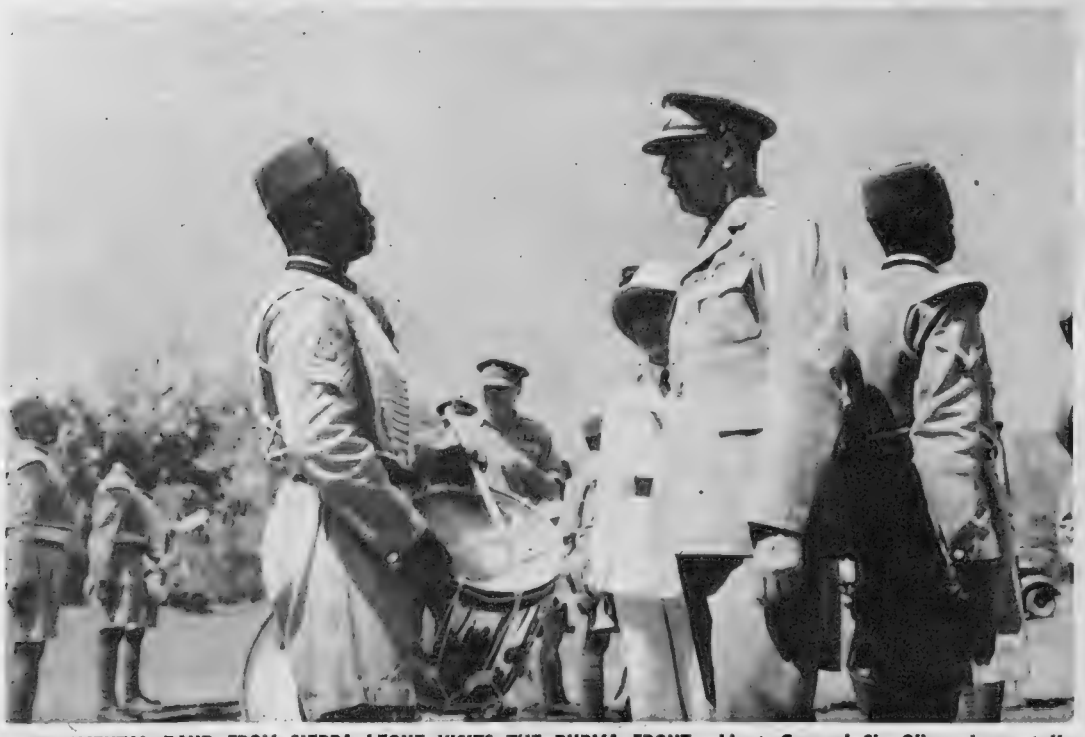
A Collection of Pictures from America, Asia and the European Continent—Before and After the Coming of Peace

CHINA'S PREMIER VISITS MOSCOW FOR A SECOND TIME—just before Russia declared war against Japan: Mr. Soong is here being welcomed at the Central Aerodrome by M. Molotov (see *note at right*)

On left—
Mr. T. V. Soong, is here seen arriving in Moscow for the continuation of the talks with Marshal Stalin which were interrupted during the Potsdam Conference. On his arrival at the Central Aerodrome, M. Molotov welcomed the distinguished visitors. He is here seen on the left shaking hands with M. Wang Shi-tse, Chinese Foreign Minister; Premier Soong is in the centre. Beside him (in uniform) is the Russian Deputy Commissar of Foreign Affairs, M. Lozovsky

A BELGIAN TRIBUTE TO THE BRITISH GARRISON AT GIBRALTAR: This picture was taken on July 21, when a memorial plaque was unveiled by Lieut. L. Hansen, a Belgian Liaison Officer, to commemorate the assistance given by the garrison to escaping Belgian nationals during the war years. Lieut. Hansen is here seen in the act of unveiling the plaque at Line Wall. Also present at the ceremony were the Governor and Commander-in-Chief, Sir Ralph Eastwood; Rear-Admiral V. A. C. Crutchley; and Air Vice-Marshal A. C. Stevens

THE DELEGATES OF THE ALLIED MILITARY GOVERNMENT IN CONFERENCE IN VIENNA: At the head of the table is Lieut.-General Blagodatov. The four Allied Military Governors—representing Russia, Britain, the United States and France, are now meeting regularly in Vienna to discuss arrangements for the future administration of Austrian-occupied territory. This picture was taken on July 31 at the Kommandatura, when senior military officers of the four nations met to discuss preparatory matters



A REGIMENTAL BAND FROM SIERRA LEONE VISITS THE BURMA FRONT: Lieut.-General Sir Oliver Leese talks to one of the side-drummers. The band of Sierra Leone Regiment, under its director, Captain S. McEwen, has been carrying out an extensive tour of India and Burma. Very soon after its arrival in the South-East Asia Command, the band travelled into the Arakan, in Burma, where it played for West African troops wherever it found them. In jungle clearings not far from the front line, the band gave hundreds of concerts which were enjoyed as much by troops of other countries as they were by the West Africans. After leaving Burma, the band travelled in India, giving many concerts inNew Delhi for British, Indian, American and Chinese troops

THE JAPANESE WAR MINISTER, who committed hari-kari six hours after the Japanese surrender—Major-General Korechika Anami, whose death was announced by radio, "to atone for his failure in accomplishing his duties"

AN AMERICAN "HOLINESS SECT" HOLDS A SNAKE DEMONSTRATION IN VIRGINIA: The State police intervened, broke up the demonstration, and killed a number of the deadly reptiles. The State police of Virginia received a weird assignment a few days ago, when they were ordered to break up a meeting of a religious cult which use live snakes in "test rituals." Five thousand hill-dwellers from Tennessee, Kentucky and Virginia raised an uproar as the police pushed into the crowd of people—all members of the "Holiness Faith Healers"—who were trying to get their hands on a mass of rattlesnakes and copperheads. As the troopers, armed with a writ from Governor Colgate Darden, went into action, a cult leader dragged the squirming reptiles from an automobile and started passing them out to the crowd. Troopers managed to kill four big mountain rattlesnakes, two of which had been wandering around inside the shirts of worshippers. The cult leaders claim that the ability to handle poisonous reptiles without injury is a test of faith

SHIRLEY TEMPLE GROWS UP—How she will appear in her newest film: This pastel-blue spring suit is worn by Shirley Temple in her latest film *Since You Went Away*, in which the youthful star appears with such famous artists as Claudette Colbert, Jennifer Jones, Monty Woolley, Lionel Barrymore and Robert Walker. The suit is stated to be "of a soft flannel, dressmaker-tailored, and has a high turn-over collar and shirt-waist sleeves. An insertion of mulberry at the shoulders is fashioned to form Shirley's initials on her right side"

AT THE PÉTAIN TRIAL: General Weygand makes his first public appearance since his release from a German prison—to testify in favour of Marshal Pétain at the great trial in Paris

DEMANDING THE DEATH PENALTY: The aged Maître Mornet, Public Prosecutor, makes his final appeal to the jury and urges that death be the reward for the collaborationist activities of the Marshal

THE DUKE OF WINDSOR IN WASHINGTON during a Press Conference which he held in the Statler Hotel. Later, he saw the President at the White House, after having announced his intention of returning to England soon

THE NEW BRITISH AMBASSADOR TO SPAIN presents his credentials to General Franco: Sir Victor Mallet, who succeeds Sir Samuel Hoare (now Lord Templewood) as Britain's Ambassador to Spain, presented his credentials to General Franco at a ceremony at the National Palace in Madrid, within three days of his arrival in Madrid—a diplomatic record! In these two pictures he is seen on the left, with General Franco in the centre, and Don Alberto Martin Artajo, Franco's new Foreign Minister, on the right

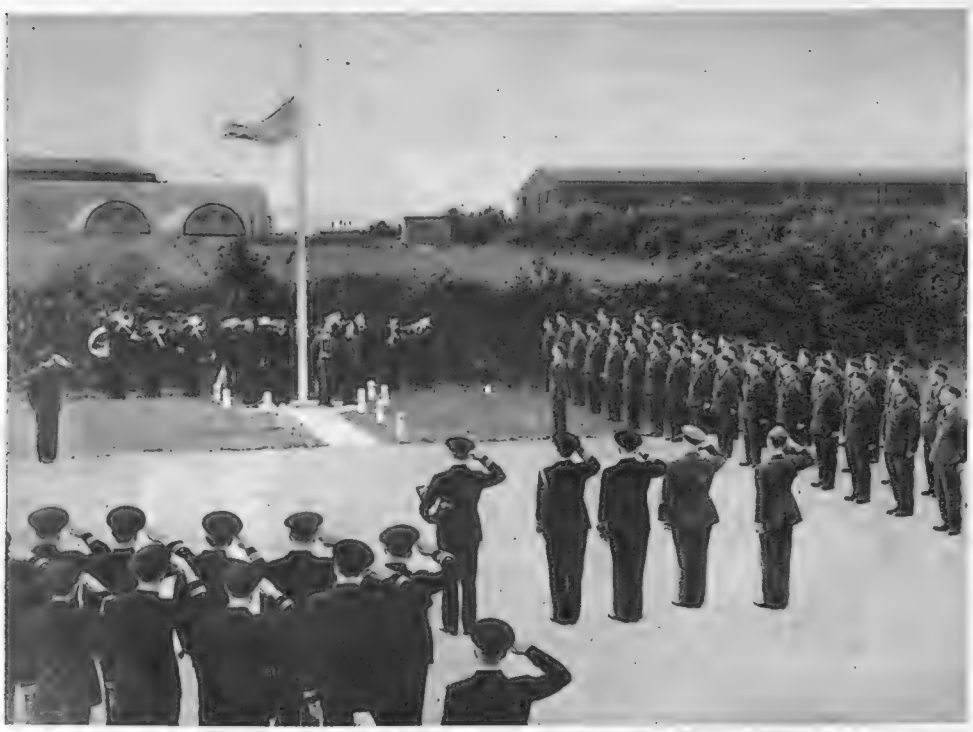
THE NEW SWEDISH CABINET is received by King Gustav: In front are Per Albin Hansson, Prime Minister (on left), with Gustaf Moeller, Social Minister (on right); they are leading other Ministers of the newly-formed Social Democratic Government to the Royal Palace in Stockholm, where they were received by the King. The new Cabinet takes the place of the Coalition Government which had been in office since December 1939

IN ENGLAND TO-DAY

Getting Back to a Peacetime Basis —Pictures of Varied Interest from Different Parts of the Country

THE AMERICAN ARMY IN BRITAIN BEGINS TO MOVE OUT : One of the biggest moving jobs in history is now in full swing—the transfer of American Army equipment and troops from Britain back to the United States or to the "occupation" bases in the Pacific. Some 7,000 German prisoners are working in shifts in a make-do-and-mend campaign which has reduced scrap-salvage to not much more than 1 per cent. in metal and under 6 per cent. in clothing. Here some of the prisoners of war are sorting out the salvage

AT THE U.S. DEPOT IN TODDINGTON PARK, GLOUCESTERSHIRE, renovated jeeps are ready for their crates for transference back to America



THE AMERICAN NAVY RETURNS A BRITISH AIRFIELD TO THE R.A.F. : The Ensign is here being raised at Dunkeswell ; in the foreground are American Navy officers who have been stationed at the airfield ; on the right is a detachment of the R.A.F. Regiment. A U.S. naval band played during the ceremony

GROUP CAPTAIN W. S. CASTER, who commands the R.A.F. Station at Mountbatten, receives the airfield on behalf of the R.A.F. The Stars and Stripes was lowered and the R.A.F. Ensign raised over the airfield at Dunkeswell, in Devon, during a ceremony which marked the handing-back of the airfield by the United States Navy to the R.A.F. Dunkeswell was the only U.S. naval air base in Europe, and from it American Liberators and Catalinas took part in anti-submarine warfare in the Atlantic and the Bay of Biscay. Dunkeswell will be used in future by R.A.F. Transport Command. Behind Group Captain Caster in this picture are, left to right—Captain George C. Miller, U.S. Navy, Station Commander at Dunkeswell ; Captain W. F. Kline, who returned the airfield on behalf of the U.S. Navy ; and Lieut.-Commander M. S. Baldwin, Executive Officer at Dunkeswell

WEALTHY MEN BECOME VOLUNTARY "CLEANERS"—a scene at the Conservative Club : The bar of the Conservative Club, in St. James's Street, needed spring-cleaning. But no labour was available for the job. Six Club members (who between them control capital worth £10,000,000) volunteered to go "charing" and do it themselves. Here they are seen on the job with buckets and mops. At the top of the ladder is Major Lemanton ; in the centre is Sir Norman Vernon, managing director of the £5,000,000 Spillers Flour concern ; and below is Colonel Max Heald

A NEW-TYPE PREFABRICATED "UNITY HOUSE," which has its roof put on first! On a site now cleared of bombed premises in Endsleigh Street, near Euston Station, a new type of prefabricated permanent dwelling-house, the "Unity," the invention of Mr. G. K. Findley, is being built for demonstration. The cost is low, and many types can be built. Around a concrete base are spaced reinforced concrete columns ; between the columns will be walls of hollow blocks of manufactured stone with an air-space between. The inside is dressed with a coat of plaster which can be distempered. The inventor says the house can be put up in 900 man-hours—compared with 2,500 man-hours for a similar brick house—and at a cost of £900. Here is an exterior view showing the "skeleton" around which the whole house is built. It will be seen that the roof has been completed first—an unusual feature in construction

THE COMMANDER-IN-CHIEF OF THE CHINESE NAVY visits the Admiralty in Whitehall : This picture was taken a few days ago, when Admiral Chen Shao-Kwan, Commander-in-Chief of the Chinese Navy, paid a visit to the First Lord of the Admiralty in London and met the members of the Board. From left to right here are—Captain Chow Ying-Tsung, Chinese Naval Attaché; Lieut.-Commander H. R. Hardy, R.N.V.R., Flag Lieutenant to the Board of Admiralty; Admiral of the Fleet Chen Shao-Kwan, C.-in-C., Chinese Navy; and the Fourth Sea Lord, Vice-Admiral A. F. E. Palliser. Behind is the statue of Lord Nelson

THE OFFHAM QUINTAIN : The Lord Lieutenant of Kent has the first tilt. During the war the quintain on the village green at Offham, in Kent, was removed to a safe place. A few days ago it was reinstated at a ceremony at which Lord Cornwallis, Lord Lieutenant of the County, was present. He took the first tilt at it. The sport of tilting at the quintain was once popular. Now, the one at Offham is the only quintain left in the country. The penalty of failing to hit the cross-bar squarely is to have it swung round and catch the rider a resounding smack on the back of the head

AT THE SEMI-FINALS OF THE BRITISH SHOW-JUMPING ASSOCIATION AT CARSHALTON, SURREY : "Miss Mascot" refuses and throws her rider, Mr. Philip Turner, in spectacular fashion. The finals are to be held at the White City in September

A CLEVER BOY-RIDER IN THE SAME CARSHALTON COMPETITION : Alan Oliver takes a jump on "Tiger" in fine style. Alan Oliver, an eleven-year-old horseman, was one of the competitors in the British Show-Jumping Competition at Carshalton, Surrey. He comes from Aylesbury, in Buckinghamshire; has three horses, one of them over 16 hands; and hopes to be among the finalists at the White City in London in September

KEW GARDENS IS A POPULAR SPOT WITH VISITORS : Admiring the great water-lily "Victoria Regia," which comes from Brazil and is now flowering. A very gay display is now to be seen at Kew Gardens. There are beds of small-flowered dahlias along the Broad Walk, and also formal beds of geranium, petunia and "cherry-pie" to the east of the Palm House. In the hothouses there is the giant water-lily "Victoria Regia" from Guiana and Brazil, which is now flowering in House No. 11. It has leaves which measure 5 ft. across

A RAILWAY GARDEN AT CANONS PARK which has won a prize for eight years : Mr. Edward Paris, who looks after the garden at Canons Park Station, has been in the first three in the L.P.T.B. Railway Gardens Competition for the last eight years. This year he has again won a prize; his workmates at Canons Park always get their gardening advice from Mr. Paris!

TRADING with the SOUTH AMERICAN REPUBLICS

The Plans of Latin America for Exports to this Country and the Growth of Industries in the Republics During the War Years

By CHARLES GRAVES

IT may be recalled that a few weeks ago I wrote a couple of articles on the subject of our exports to the South American Republics after the war. My information was based on material provided by the Bank of London and South America. This enterprising establishment now enables me to show the other side of the medal; in other words, the plans the South American Republics have for exports to this country. The impact of the war years has stimulated the growth of national manufacture in almost all the Latin-America countries. As a case in point, the value of Argentinian exports to South Africa has risen from barely 4,000,000 pesos-worth in 1938 to nearly 160,000,000 in 1943. Rises almost comparable with this are to be found in the export business of other Republics. The problem is whether these are likely to be permanent or not.

But let us begin with the Argentine. The war affected her export trade in a number of ways. Scarcity of shipping and the extremely high cost of freight made it unprofitable to carry bulky goods, like wheat and maize, across thousands of dangerous miles of ocean. The United Nations consequently preferred to buy products of high value and comparatively small bulk. Argentinian products, therefore, like wheat and maize, decreased by well over half; pastoral products, such as meat, nearly doubled. Manufactured and semi-finished goods jumped from 24,000,000 pesos-worth in 1937 to 340,000,000 in 1944. Exports of cheese, which were negligible in 1938, rose to nearly 17,000,000 pesos in 1943, while wine, gin, vermouth, and other alcoholic beverages, export of which was almost non-existent before the war, have had substantial sales, particularly in the United States.

It was the entry of the United States into the war which gave the fillip to the textile exports from the Argentine. Early in 1942 she began exporting cotton cloth and yarns, woollen cloth and yarns, silk cloth, woollen blankets, towels, stockings, boots, shoes and hats. These exports are not expected to continue on an important scale after the war when normal sources of supply are again available. This is partly because of quality, and also price. The Argentine has been unable to import the most modern textile machinery, and further knowledge and technical progress are required before the Argentine can compete with Manchester, Huddersfield and Leeds. Altogether though, Argentinian industry has made far greater strides during World War II than during World War I, and the full effects of this are likely to be seen when the importation of machine tools is once again possible.

For some years before the war, Brazilian exports showed a tendency to extend both in volume and value, but the loss of important overseas markets and the restrictions on shipping, caused by the war, led to a decline in the total volume of exports, though there was a substantial increase in their value. Coffee and cotton accounted for 74 per cent. of total export values in 1934, but dropped to 37 per cent. by 1943. The principal export products which have increased during the war years include cotton textiles, canned meat, rock crystal, industrial diamonds, pine wood, rubber, leather, tyres and inner tubes. But there has been a decline in volume, even if an increase in value, of the exports of not only coffee and cotton, but also meat, cocoa, hides and skins, tobacco, maize, bananas and nuts. It seems certain that there will be a decrease in many of these exports, which were required mainly for the war effort and for which abnormally high prices were obtained. The high cost of production, due to the increase in labour costs, will have much to do with this. Nevertheless, Brazil's participation in the U.N.R.R.A. agreement will mean that coffee, cocoa, rice and maize will be exported at a high rate in the post-war period.

The sterling value of merchandise shipped from Brazil to us during the five years before World War II averaged £6,000,000 a year, this being 10 per cent. of the total value of Brazilian exports. This amount had trebled by 1944, largely owing to increased shipments of canned meat and meat products, iron ore, rock crystal and plywood, in addition to wax, vegetable oils and that torment of spelling-bees—ipecacuanha. Ipecacuanha's statistics are interesting. During the war, production averaged 60 tons yearly. By 1941 the volume of export reached 158 tons; next year the whole export of ipecacuanha root is prohibited in order that it may be utilised entirely in national industries. Brazilian rubber—and everyone has heard of para rubber—has multiplied five times in value since 1938, while the export of industrial diamonds has multiplied nine times, most of the shipments going to the United States. But who would have thought that Brazil would start exporting iron bars and rods?

Brazil nut exports to us ceased in 1941, but perhaps we may get some before Christmas. It would be nice, too, if the millions of boxes of oranges which reached England annually were to become once again available in the near future. After all, we cannot compete with her in this. But post-war possibilities in Brazilian exports to Great Britain will depend primarily upon our policy with regard to the continuance or suspension of the preference for Empire products.

Chile's wealth depended for years on copper and nitrate, which, between them, account for 80 per cent. of the total value of the nation's exports, her current production of bar copper totalling 500,000 tons annually. In the past, Great Britain has acquired important quantities of copper, wool and frozen mutton from Chile, and it is safe to presume that these commodities will always be available for export on the same scale. There are a number of other goods, however, which are only in the initial stages of development, but may well force their way into the United Kingdom.

Colombia is still undeveloped and her war effort has been confined largely to the intensification of home industries to provide goods which she formerly imported, particularly textiles, pharmaceutical specialities, and foodstuffs. Her basic exports are coffee, gold and petroleum, her international income having always depended upon coffee. Before the war, Hamburg was the European centre for mild coffees, and there seems no reason why London should not take over this business.

Also before the war, the United Kingdom spent over 2,000,000 pesos on Colombian bananas. Perhaps we will get some more next year.

Ecuador imported almost four times as much from the United Kingdom as she exported last year, but her possibilities of export are considerable. The gathering and export of crude rubber has been built up during the war, and might be continued. Panama hats, in spite of their name, are an exclusively Ecuadorian product, and have a great chance over here, owing to the suppression of competition from enemy-occupied territories.

Ecuador's great contribution during the war to the United Kingdom was balsa wood, the miraculously light timber used for the construction of Mosquitoes and life-saving rafts. There is little doubt that manufacturers in this country will find various peacetime uses for it. There is also likely to be a considerable increase in the export of crude petroleum. Mineral ores, copper, silver and gold were not exported at all in 1941; but a substantial quantity has gone abroad during the past four years.

The tendency in pre-war years in Guatemala was towards reciprocal trade, thus penalising countries which did not buy local products in the same proportion. This was suspended during the period of the war, but may be renewed when things become normal again. Coffee will always be Guatemala's chief export commodity, but it also makes chicle, from which one gets chewing-gum. Great Britain has bought quite a lot of honey from Guatemala, and the production of quinine is being studied methodically.

Before the war, Great Britain imported cotton, balsam, coffee, alligator skins, ipecacuanha and lumber from Nicaragua, but only in negligible quantities. It is possible, however, that in the post-war period, exports of these products to us will be stimulated. The chief effect of the war on Nicaragua's development was the production of sesame seed and rubber, but in view of the high cost of extraction, the local rubber is not likely to compete in the post-war market. Practically all the coffee and the gold go to the United States.

Paraguay's exports, like those of all other South American Republics, increased in value during the war years. The most important exports were corned beef, beef extract, and other meat products, of which practically the whole production came to this country. The packing establishments and the Government are anxious to maintain this situation indefinitely. As for cotton, the authorities hope to arrange a fixed annual quota for the United Kingdom, amounting to 5,000 tons. Essence of oil extracted from the leaves of the bitter orange-tree has been sent chiefly to the United States and France, but exporters want to find a market in Britain.

In 1938-39 we were the largest purchaser of Peruvian products, but during the war things have altered considerably. The drop in our imports of live animals has been remarkable, though foodstuffs, including butter and preserved meat, jumped from 162 metric tons in 1938 to 2,746 in 1944. Our imports of metallic minerals, like gold, copper, bismuth, have remained more or less stable, but there has been an increase in drinks and liquors. Peru's chief exports are mineral, vegetable and animal products, petrol shipments yielding about 25 per cent. of the value of all exports.

For all practical purposes, El Salvador must be considered an agricultural country. Industries have increased as the result of the war, but these have been more with the idea of supplying domestic requirements than of competing in the export market. Coffee always has been, and always will be, the principal export. Lack of water, and therefore lack of electrical power, is largely responsible for the absence of major industries.

Uruguay has progressed fast during the past five years. Her wool-spinning and weaving industry has been working to its fullest capacity. South Africa has been her best customer. Tanned and semi-tanned leather has also been exported in increasing quantities. Until the war, the public showed a marked preference for the foreign-made article over the national one. To-day the position is very different. Production costs in Uruguay are on the high side, but it is possible that the Government may grant subsidies through the medium of the Exchange Market, in order to maintain this export business.

Apart from petroleum, coffee, cocoa and hides, Venezuela has little to offer for export at the present stage of her development. But nickel, asbestos, phosphates, iron ore and coal have all been found during the war, and are now being developed. The export of vegetables and fruit is also being developed, and the fish-canning industry, established on a small scale before the war, has undoubtedly come to stay.

No statistics are available from Bolivia, but the general picture that one obtains from a perusal of all this statistical data, is that no South America Republics will continue to depend largely on her exports of meat, copper, coffee and timber. It seems improbable that they will be able to maintain their export of finished goods, with the exception of textiles. No doubt Lancashire will keep a careful watch on possible rivalry if the latest British machinery is exported in anything like large quantities, particularly to the Argentine.

THE TYPE OF TROOPSHIP WHICH AMERICA EVOLVED FOR THE WAR AMONGST THE PACIFIC ISLANDS: This is the *General J. C. Breckinridge*, the latest of a series of fast ships evolved and built for voyages of great distance in the Pacific. She is a "stream-lined" vessel of 20,000 tons, which can transport 6,000 fighting men in comparative comfort, and which is armed to repel enemy air attacks. A large number of such ships were built and launched in the United States from 1943 onwards. Now, presumably, they will be used to bring the fighting men back from the Pacific, before being transferred to serve the carrying trade of the American Continent

EIRE GIVES THANKS —for NEUTRALITY

The Pilgrimage by 20,000 People to the Summit of Croagh Patrick

To the summit of Croagh Patrick, a 2,225-ft.-high mountain in Mayo, on the Western Atlantic coast of Ireland, where St. Patrick prayed 1,500 years ago, 20,000 Irish people went on pilgrimage—to give thanks for Eire's neutrality during the Great World War which has just ended. Mr. de Valera, Eirann Prime Minister, made the journey from Dublin to Westport by car to join the pilgrims, but he was dissuaded from attempting the climb.

Led by the veteran Archbishop Walsh, whose home is at the foot of the mountain, the pilgrims came from all corners of the land to climb to the tiny chapel erected on the summit near the ruins of the Teampall Padraig (or Church of Patrick). Many of them made the pilgrimage barefooted.

For the first time in history, Americans took part. Soldiers in uniform climbed in bare feet with the Irish pilgrims, and an American Roman Catholic chaplain from Philadelphia said Mass for his men on the mountain summit.

It was at 2 o'clock on the Sunday morning that the first pilgrims started the ascent in the pre-dawn darkness. On the slippery, dangerous mountainside there were several accidents. Barrels outside every store displayed hundreds of stout blackthorns. The path was mapped out by these sticks, discarded on the journey down.

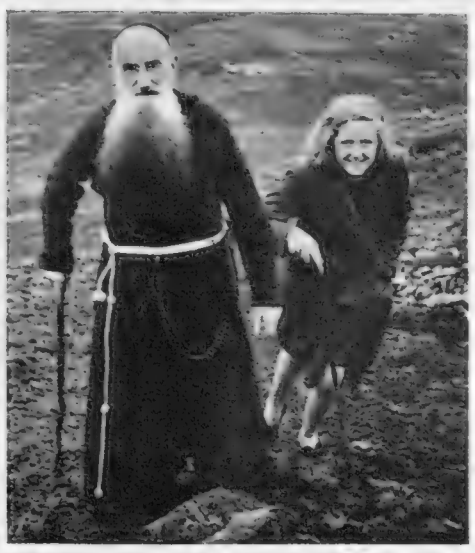
CROAGH PATRICK JUST AFTER DAWN ON THE DAY OF THE PILGRIMAGE: It was here that St. Patrick prayed 1,500 years ago, and spent forty days in penance in the Teampall Padraig (or Patrick's Church), the ruins of which still exist. Twenty thousand pilgrims, many of them barefoot, climbed to the summit

AFTER THE ASCENT AND THE SERVICE AT THE SUMMIT, the pilgrims descend the mountain to Clew Bay: From this spot, near the much larger Galway Bay, there is a fine view of some of the 365 islands which lie just off the Irish coast

THE PILGRIMS TOILING TO THE SUMMIT 2,225 FT. UP: The mountain pathways are slippery and dangerous; each pilgrim bought a stout blackthorn for the ascent which was discarded on the way down

MASS IS CELEBRATED OUTSIDE THE LITTLE CHURCH ON THE MOUNTAIN-TOP: Among those who celebrated Mass were American and British Army chaplains on leave in Eire

GOING ROUND ONE OF THE STATIONS ON HER KNEES: This pilgrim walked all the way from Balla, in County Mayo, 30 miles away



BEARDED FATHER ANGELUS, OF DUBLIN, nearly seventy-five years of age, who made his 39th pilgrimage to Croagh Patrick this year

The World of Books—By Vernon Fane

FOUR OF THE NEWEST NOVELS

Gerald Bullett's "Performance in Perfect Taste"; A Striking American First Novel; C. S. Lewis's Fantasy of Good and Evil; Gossip Writer into Mongrel

MR. GERALD BULLETT is a scholar and a poet, with the good sense to leave "poetic prose" to the experimenters, and to write with the lucidity and the feeling for the right and inevitable world of the real prose stylist. His output lately has been small, and his new, long novel all the more gratefully received. **THE ELDERBROOK BROTHERS** (Dent. 10s. 6d.) takes the form of three closely-woven stories of a family of brothers growing up together in an English farmhouse in Victorian times, leading widely diverse lives (only one of them has a bent for agriculture), and meeting again in the 'twenties with some self-consciousness and very little understanding of each other.

It is as if from the same stock had sprung three trees of different growth; three of the same species but of separate habits. Each of the men develops his character according to his own bent, and each of them is a personality in his own right. The only faculty they have in common is one which effectively prevents them from being a united family: their talent for complete self-absorption.

By a caprice of his father's (the kind described by someone as "a whim of iron"), the youngest boy, Felix, is the only one to attend a public school and later a University. As a young man he takes holy orders, becomes a member of an Anglican brotherhood, goes through the last war in Flanders, and returns to a mission in a city slum. The second son, Guy, spends a lifetime compensating for his father's slight in his boyhood, and becomes a slick and wealthy opportunist.

Only Matthew stays on the farm and continues his father's pattern of a country life—as least, as far as those casual observers, his brothers, can see. In fact, Matthew has known the violent experiences of love, of lust, and of murder, though he remains "the quiet one." The irony of these three meeting in placid family reunion is acutely observed. The very quietness of Mr. Bullett's style makes it the more trenchant.

For here is a writer who deals in undertones and implications; not making his characters devious or sly, but allowing a subtle lack of emphasis to make his effects more surely than the most passionate of statements. He is restrained, but never colourless; gentle, but never dull. Like many performances in perfect taste, this novel does not advertise itself, but it is entirely satisfactory to the reader.

EQUINOX (Heinemann. 10s. 6d.) is a first novel of unexpected maturity. The publishers assert that some of Mr. Allan Seager's short stories have recently been included in the most distinguished American collections. So perhaps it is not so unexpected that we should find this novel full of power and vitality (even though its theme is one of frustration) and that Mr. Seager's prose leaps to the eye at once as first-rate.

If there is a touch of immaturity—allowable in all first novelists—it is a tendency to overwrite and to pursue a pregnant situation to the point of irrelevance in order to score a garrulous forcefulness. The story is of a man, a widower, tentatively approaching a re-understanding with an old love, who is suddenly confronted by the problem of an adolescent daughter, just out of a convent, who violently envelops him with a possessive and unremitting love.

By New York standards he is a decent sort of chap, who likes a drink and his fair share of not-too-reputable acquaintances, and it takes him a little while to realise what the situation is. He goes to a shady psycho-analyst for advice, and this unsavoury character sees in it an opportunity for a sadistic experiment. The result is disaster and stark tragedy both for the man and his daughter.

This extremely delicate theme is beautifully balanced and handled without offence by a writer who achieves most of his effects in periods which are attuned to that violence which is the contemporary American fashion. Most remarkable of all is the living impact of a host of minor characters, all incidental to the New York scene and all adding an intense verisimilitude to the drama. Here, in my opinion, is a new writer worthy to take his place in the succession to such intensely American geniuses as Scott Fitzgerald, Thomas Wolfe and John Dos Passos.

THAT HIDEOUS STRENGTH (Lane. 9s. 6d.) is the third volume in a trilogy by Mr. C. S. Lewis, of which the earlier two books told of inter-planetary voyages, of journeys to Venus and of other wonders. The present book brings these signs and portents, literally, down to earth, and focuses them on a small university town in the very heart of England, chosen as the battle-ground for what can roughly be described as the powers of darkness and the powers of light.

The author describes this as "a modern fairy-tale for grown-ups," but it is Grimmer than anything the Brothers ever thought of, and that is no mean feat.

Dr. Ransom is once more the hero, this time lodged near the city on his return from Venus, and recognised by the spirits on the Right Side as the Pendragon, or, very roughly speaking, the earthly representative and mediator between themselves and human beings. The spirits on the dark, or Wrong, Side are, on the other hand, represented by an institution, a caricature of a wartime ministry and a huge chemical combine, to whose members bestiality and soullessness are the entrance qualifications.

The author must have had a good deal of fun in a quiet way with these particular manifestations of evil thinking. He has collected and minutely portrayed as nasty a bunch of torturers, place-seekers, sadists, gluttons as ever writhed in a Doré cartoon. He has, in fact, described their habits and their physical appearance with a good deal more care than he has given to their righteous opponents, who remain good but faceless. Mr. Bultitude, a rather winning bear, is the one exception to this rule.

It is not in the nature of fantasies to bear analysis, so I will not attempt to give you a line on the plot, only to say that the adventure has occasional moments of real excitement, like an early H. G. Wells, less frequent hints of salaciousness, and a majestic disregard for the laws of science and of nature. In other words, it is the type of book on which each reader must form his own opinion. I would like to add that throughout it, as in every book I have read in which he appears, Merlin is the most likeable character.

The first ten pages of Mr. Gordon Boshell's novel are as diverting as any of the more popular guessing games, but, like such games, their interest hardly lasts a whole evening. Although the author states crisply enough that the characters in his book are not only fictitious but fantastic, they are a little more and a little less than that to the diligent reader. And, while naming no names, they are, for those first ten pages, pretty good fun. After that the joke palls.

DOG'S LIFE (Secker and Warburg. 6s.) opens with the dismissal of a journalist who is the sixth in a series to write an extremely popular gossip column under a pseudonym. The column will continue to be written in his absence, as it has continued after the successive firing of the first five writers. And the style will be unchanged—a style which Mr. Boshell describes in some detail.

The unemployed journalist, with six months' salary in his pocket and no immediate prospect of work, stands on a Fleet Street pavement and ponders, in an agreeable glow of whisky, on his future. He is happy, but he is not hazy, for when a mongrel dog darts in front of a bus, he moves faster still, and saves the dog at the cost of his own life. It is all a matter of split seconds and too fast for even the angel in charge of such matters to secure his soul, which incontinently passes into the body of the dog. And from that point we have the little, undistinguished animal with the thoughts, feelings and human instincts of one Samuel Perkins.

The trouble is that he is not only a dog, but rather a dull dog; a moraliser and an indulger in long, philosophical reflections on the war, on Socialism and on other aspects of human endeavour. His friends in the animal equivalent of the local are just as bad, and there is a parrot about whom I take a really excusably jaundiced view, so full of sweetness and light is he.

In the end, Mr. Perkins, still as a dog, finds a friend who is really worth while, in a small boy, and the story closes with this affectionate pair, and on a note of optimism. It is a present-day fable with topical allusions, and as such it is intelligently done, but as a realist I prefer the direct attack of the first chapter. Mr. Boshell has got something there.

THE RICKMANSWORTH "FLITCH" TRIAL seems a bit of a bore to the Judge! An amusing scene at a garden fête held at Rickmansworth by members of the local Home Guard Association. Mr. A. Montgomerie, the Judge, kept dozing off to sleep during the proceedings. The claimants to the Flitch, which, owing to rations, was made of cardboard, were Mr. and Mrs. Clark, of Valley Road, Rickmansworth, and Mr. and Mrs. Basill, of Grove Road, Mill End. The foreman of the jury, Mr. Howard, returned a verdict that the Clarks were the happiest married couple

TEACHERS FROM LIBERATED EUROPE attend a course at Dulwich College: Nearly 100 teachers from France, Denmark, Norway, Czechoslovakia, Greece, Belgium, Luxembourg and all parts of the United Kingdom have assembled at Dulwich College, where they are attending a course jointly arranged by the Ministry of Education and the British Council. Throughout the two-weeks duration of this course, the first of its kind, the teachers will all be living in the College buildings, by kind permission of the Governors and the Master, Mr. C. H. Gilkes, M.A. Some of them are here seen making selections from the College bookshop

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This good cigarette in green packets

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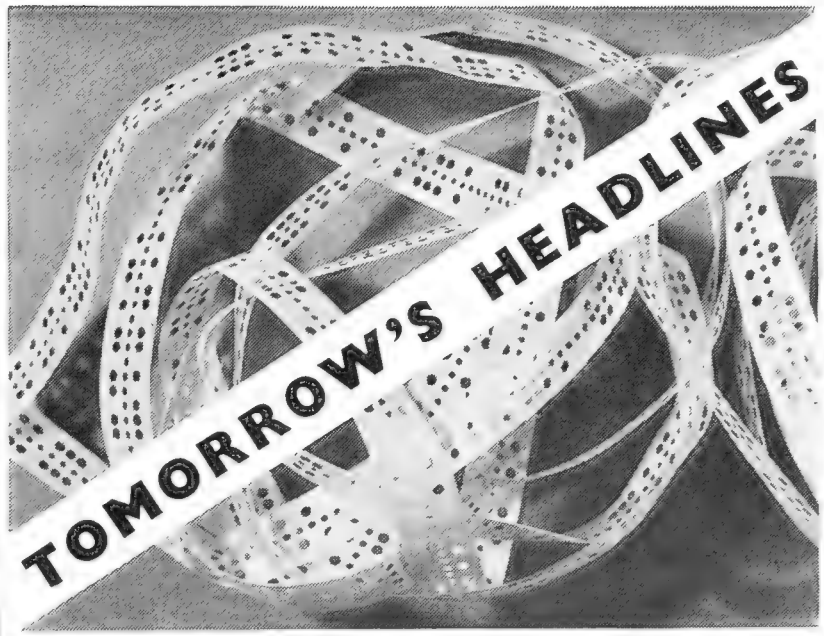

A Prime Minister speaks and Vesuvius erupts ; a new oil shaft is sunk but a Channel swimmer remains afloat ; Home Rails are dull but tomorrow the sun may shine . . . Night and day, minute by minute, the central telegraph station of Cable and Wireless is receiving the news red-hot, linking the hemispheres, feeding the press, breaking the old laws of space and time.

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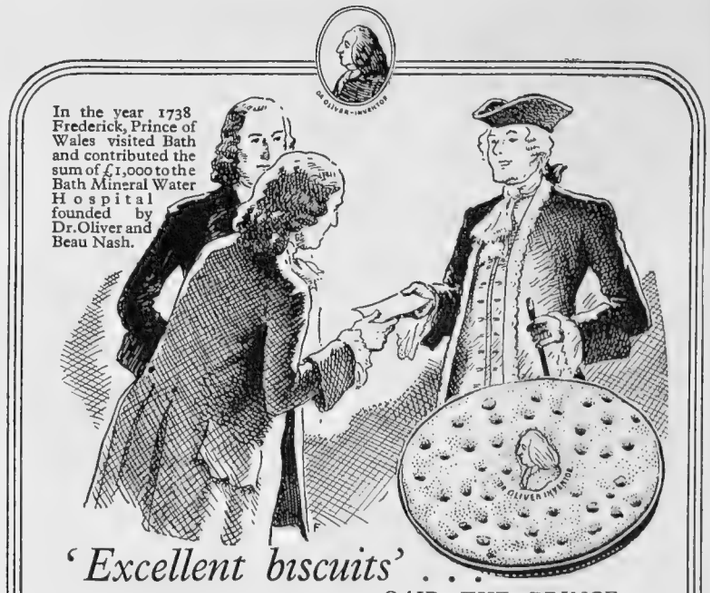
If you still find Horlicks difficult to get, it is because many continue to have special need of it

For nearly six years much of the Horlicks that has been made has gone to the fighting forces, the hospitals, and war factories. These needs will still have to be met.

It is nevertheless hoped that the shops will receive increasing quantities of Horlicks as the months go by, but if you still find Horlicks difficult to get, it is because many continue to have special need of it. And make Horlicks by mixing it with water only. The milk is already in it.

HORLICKS



'Excellent biscuits' . . .

SAID THE PRINCE

'Your Royal Highness's munificence' said Dr. Oliver, pocketing the Prince's cheque, 'cannot be exceeded save by'... 'the quality of your excellent biscuits,' interrupted the Prince. Already famous among the fashionables of that day were these excellent biscuits invented by Dr. Oliver. After more than two centuries their unique palatability and flavour remain unchanged. Wartime demands have made Bath Oliver Biscuits less plentiful, but they should be readily available again when the world returns to peace.

Fortts

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BATH OLIVER

BISCUITS

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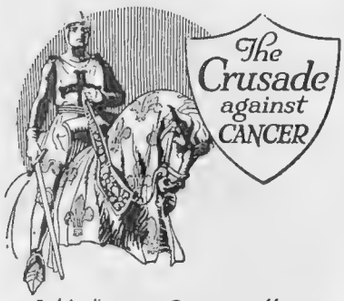

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A TIRELESS TEAM OF SCIENTISTS

Every sufferer from Cancer entering the Royal Cancer Hospital for treatment becomes the special study of an expert staff of scientists, doctors and research workers. Almost every case brings to light some new aspect of the disease which could lead to complete knowledge of its cause and effect. Nothing is left undone which will alleviate suffering of the patient. Interpretations and opinions of individual symptoms are pooled; treatment agreed between experts; even new apparatus is specially designed and made in the Hospital's own workshops. In this way the menace of Cancer is being checked and the obscurity of its origin is gradually being cleared away.

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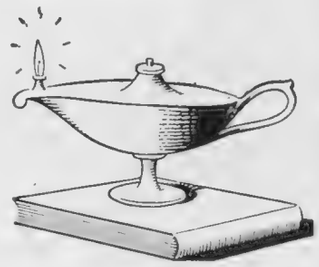

"In the present state of medical knowledge..."

If time could indeed "run back and fetch again the age of gold" we should have no need of nerve tonics: life in those mythical days was its own tonic and Nature was every man's doctor. The sterner times in which we live may well take toll of the strongest nerves. That is why doctors nowadays are prescribing 'Sanatogen' Nerve Tonic, for 'Sanatogen' is a chemical combination of organic phosphorus and protein — those two essentials without which even the strongest nervous system will break down under strain. If you are feeling tired or on edge, ask your chemist if he has a tin of 'Sanatogen'.

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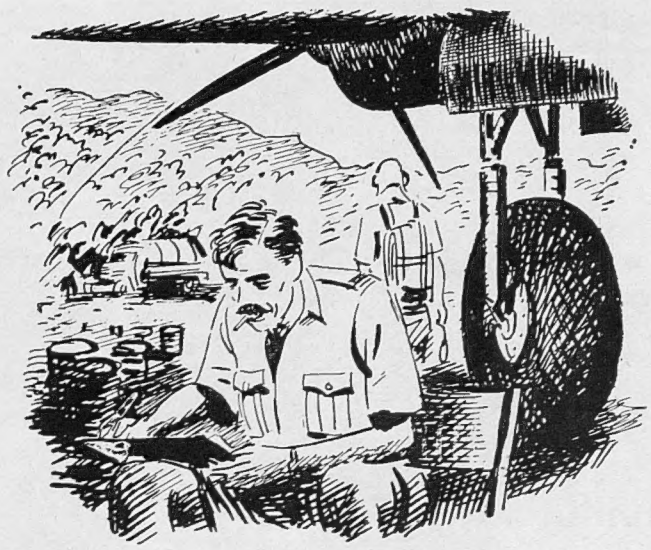

I've flown from our British winter into this — Whew! But I'm glad you insisted on **'Viyella' Service Shirts** because they are cool when it's hot — and warm when it's not

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"Sh! I'm putting Dolly to bed." Every night Sheila gives Dolly supper and washes her, puts her to bed and stays until she "goes to sleep." Dolly gets a rough scrub with a dry flannel, but Sheila is washed with Pears Soap. Mummy knows that Pears Soap and clear water is the secret of her lovely clear complexion—the secret of Preparing to be a Beautiful Lady.

PEARS SOAP

We regret that Pears Transparent Soap is in short supply just now.

A. & F. Pears Ltd. GG 371/396

EXPLANATION: *War conditions restrict the sale of Rose's Lime Juice in Britain. But in many parts of the Empire distribution goes on. Here, you see how we spread the news in those great countries that make up the British Empire.*
★ *Here is an advertisement to be published in India.*

HOW DOES YOUR GARDEN GROW?

"Oh *mali*, that was fine display of flowers you made on luncheon table. All the sahibs are saying it is like Chelsea Flower Show, plus plethora of knobs."

"*Humble though my station be, oh butler, I am no mean horticulturist.*"

"True, oh *mali*, for to my certain knowledge you have not watered garden for three whole weeks. Nothing there but dust and lizards."

"*Nevertheless cantonment has more than one garden. Furthermore the Colonel Sahib is shortly going on leave. It may be he will remember me before he goes.*"

"Oh *mali*, here is long arm of coincidence. Last night the Colonel Sahib gave big party. I myself provided much Rose's Lime Juice, lest there might be hangovers, with consequent retrospective lack of largesse."

"*Butler, you have put the matter in a conch shell. We of the East may be inscrutable, but we sure do know our onions.*"

ROSE'S—*There is no substitute*

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(REGD. TRADE MARK)

All available supplies of SPARKLETS BULBS are being distributed as equitably as possible. For the present, please "go easy with the soda" and return empty Bulbs promptly to your usual supplier.

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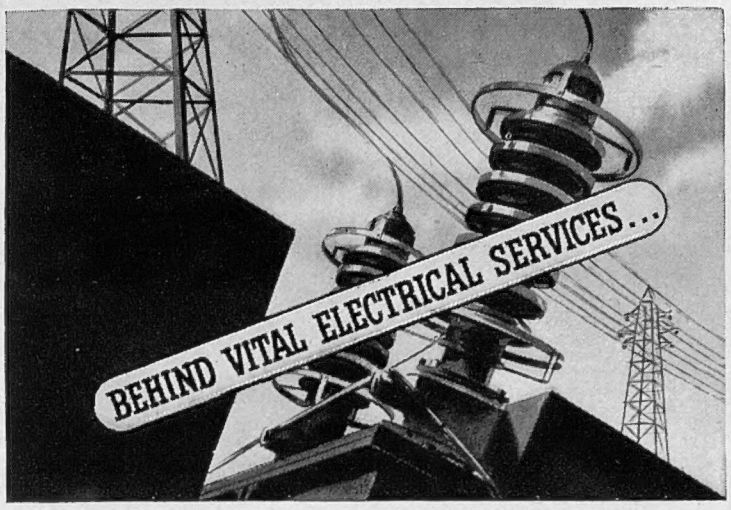

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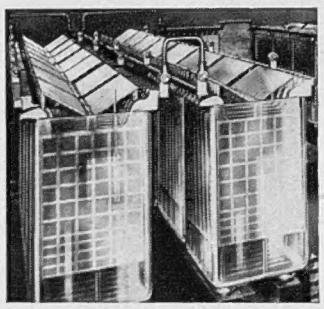

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